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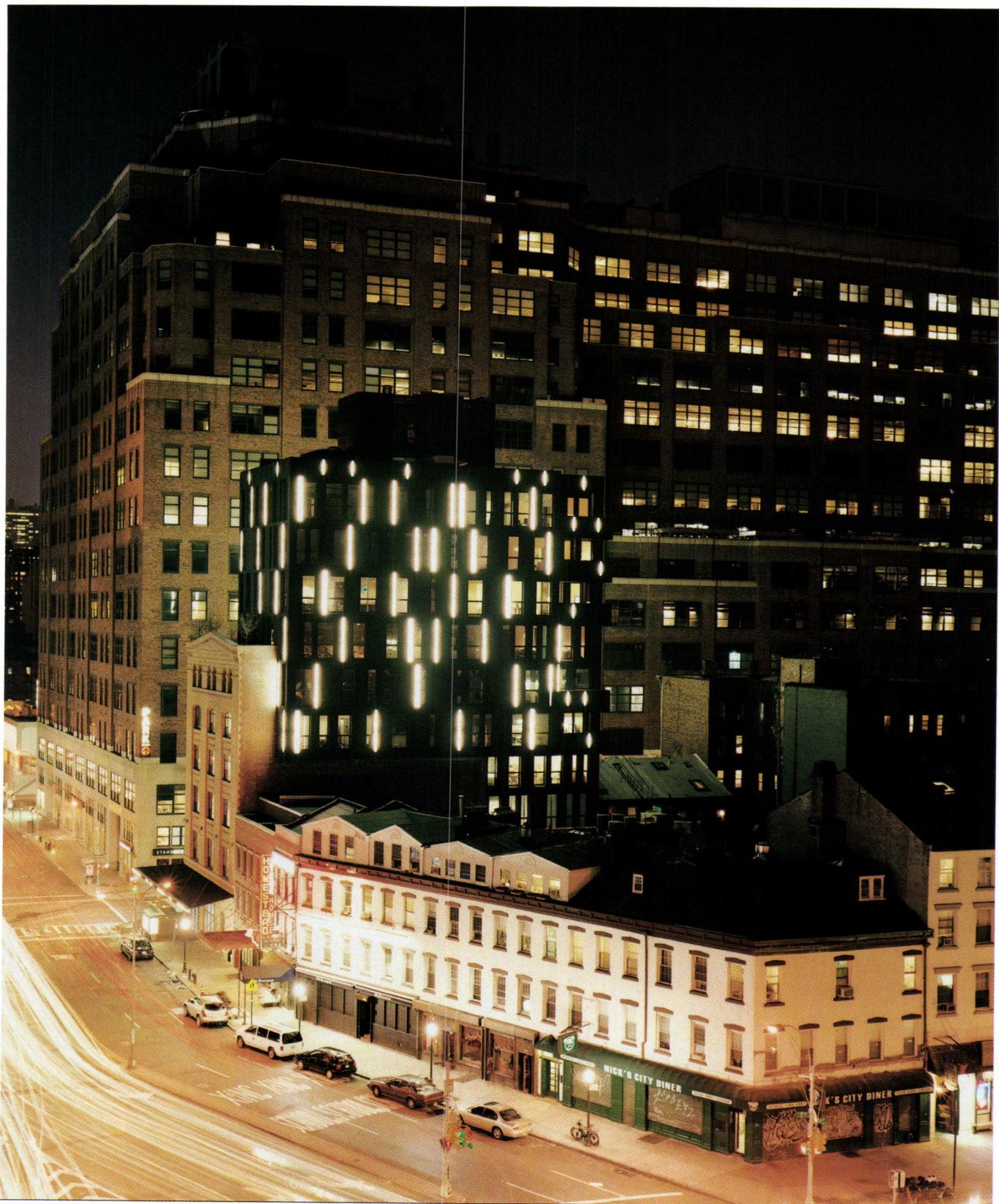
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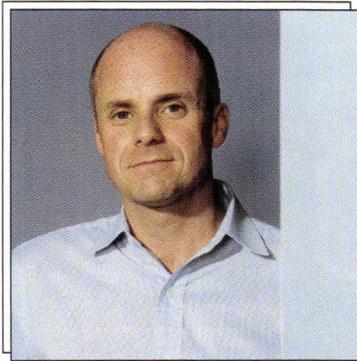
nating the night sky with spill light. The unparalleled effect of ERCO's lighting equipment such as the Tesis recessed floor wallwashers makes an ordinary castle look like a fairy tale castle.

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74 From dusk until dawn, slender vertical light boxes illuminate Porter House, a 22-unit apartment building in New York City by SHoP Architects.



PLANNING TO GROW

BY C.C. SULLIVAN

Everyone's a planner these days. I recently saw a brochure from the business-consulting firm Booz Allen Hamilton that, if purged of their name, might lead you to think you were reading about an architecture-and-planning firm. They're not the only ones either. Developers without financing, real estate "service providers," market researchers, and even landscape architects are also playing this field. Most don't have much in the way of planning credentials, but if you advertise an RFQ for an urban-design project or a campus master plan, you might get an inbox full of proposals from ten entirely different kinds of firms. (Including, of course, a New Urbanist practice or two.)

One reason for the explosion in planning professionals is that, while the economy seems to be loosening up, there's still much more predesign and feasibility work to be done than actual building. Plus, there's some confusion about the term itself: "Planner" is being used as a catchall these days, not as a designation of specialty expertise. (I doubt that the American Institute of Certified Planners is pleased.) The providers might offer urban design, "envisioning," feasibility studies, estimating, demographic studies, or environmental consulting, but they know more ears will perk up when they impressively proclaim, "We're planners."

But there's another reason: To insert one's upward-facing palm between decision-making and project dollars. Many of these Johnnies-come-lately have a keen interest in downstream pieces of the big plan, and if they're on board early (and don't screw up too badly), they're likely to get a slice of their own pie. It's also a way for architects to make opportunities happen, rather than waiting for a passing ship. Offering planning services on a bootstrap basis might be hazardous for the architect without much experience in this work, but the risk could move things forward, increasing the firm's value, credibility, and prominence in the market.

In fact, it's so alluring that a growing number of architects are doing the unthinkable: They're giving planning services away for free. Or they're doing this principal-intensive work at billing rates far less than

cost. (One firm owner brazenly told me the other day that he "donated" an associate to help a repeat client plan a doubling of a corporate campus.) It's hard to criticize architects for aggressively seeking business—if they don't do it, someone else probably will—but in the process they're further devaluing the planning discipline and dragging down the architectural profession with it.

As a son of a city planner, I may be overly sensitive to the downside of this trend. There is, at least, one bright side: More awareness of the power of master planning and urban design. While we ceded this duty at some point in the late 1970s to developers, corporations, and politicians—and, later, pro sports teams—it's time to remind the world that great architecture and planning go hand in hand.

AND WHAT ABOUT CONSTRUCTION?

At the other extreme of project delivery, a number of firms around the country report that they're changing how they plan for and administer the construction phase. Their new approaches are exemplary and could elevate the status of the architect among clients and the public at large.

The trend is toward tighter oversight through more shop-drawing reviews and full-time construction administration (CA). The motivation comes from too many years of getting socked with excessive delays and change fees—often due to the quality of low-bid contractors and sometimes, admittedly, due to weaknesses in architects' own quickly produced construction docs. Firms around the country are encouraging their clients to have one or two architectural associates on site full-time, promising more attention to the trades and faster-resolved design issues.

While some principals prefer to absorb this arrangement into their standard contracts and fees, the architects claiming the most success have been striking CA from their standard contracts and billing for the work separately and, in some cases, adding language about vetting shop drawings twice. However it's done, their methods and attitudes suggest a much-needed return to the master-builder mindset. ■

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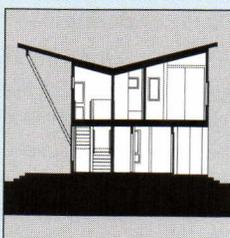
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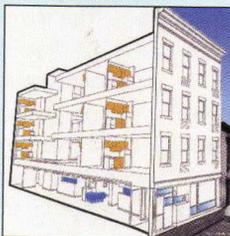
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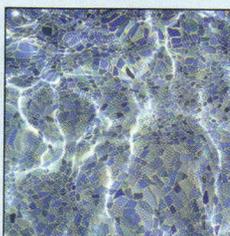
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For housing, funding matters

No one disputes the importance of Internet access [April 2004, page 15], but the funding is simply not there. Giving preference to developers who provide the service just means that all applicants for highly competitive 9-percent tax credits will install it, and Internet access will join the list of requirements—such as “readiness” points and being 15 percent under energy codes—needed to win funding. The money to pay for it will simply come out of something else. Because of minimum square footage mandates, this usually means downgraded materials. One of our HOPE VI projects, without site work, costs \$75 per square foot. Designing a livable community at that price is a challenge; the Internet requirement is simply an unfunded mandate. Perhaps one of the tax breaks for the tech industry could be earmarked for this otherwise worthy goal.

Larry Mayers
San Francisco

Mainstream movements

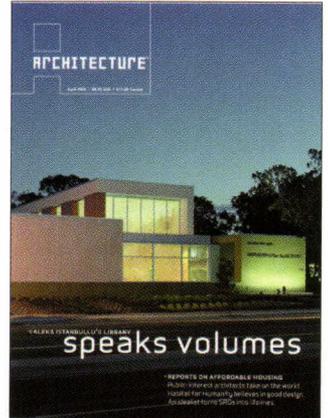
Regarding “Architecture in the Public Interest” [April 2004, page 27], this “movement” lacks three crucial things: resources, recognition, and support. Contrast this to the overabundance of those things committed to traditional practice. We’ve launched a program called “The 1% Solution,” engag-

ing practitioners to direct 1 percent of all working hours to matters of public interest. Many firms already exceed this 1 percent marker, but public-interest work is not a recognized part of our professional culture—yet.

John Cary
San Francisco

The determined leaders of the programs profiled in “Architecture in the Public Interest” are young and unlicensed. Sadly, the only group that does not recognize these leaders as architects is the profession itself. Who’s losing out? In addition to helping underserved communities, their nonprofits give emerging professionals real purpose, in ways that licensure and traditional practice do not. Here’s one long-time *Architecture* reader who would love to hear much more about the value of pro bono and public-interest work within contemporary architectural practice.

Raymond Dehn
Minneapolis



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NEWLY MODERN, MUSEUM REOPENS IN MANHATTAN

After two years in temporary quarters in Queens (September 2002, page 66), the Museum of Modern Art will reopen its Manhattan home this fall, marking the institution's 75th anniversary and the partial completion of a \$675 million renovation and expansion by Japanese modernist Yoshio Taniguchi. The project nearly doubles



the capacity of the museum, which, come November 20th, will comprise 630,000 square feet of space on six floors, including 125,000 square feet of exhibition space. The granite-, glass-, and aluminum-clad building will have major entrances on both 53rd and 54th streets and abundant natural light, provided in part by a 110-foot-tall atrium that slices through the galleries. Aspects of the original museum buildings, including the Philip Goodwin and Edward Durrell Stone-designed façade on 53rd Street, the 1965 addition by Philip Johnson, and Cesar Pelli's 1984 Museum Tower, will be preserved, their renovation and restoration supervised by executive architects Kohn Pedersen Fox. The famed sculpture garden will also be restored, returning to its original size. **Julia Mandell**

ZAHA HADID IS THE EXCEPTION

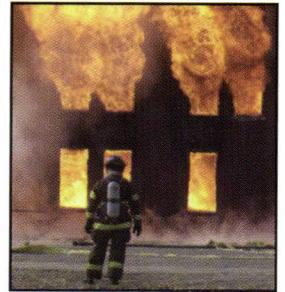
Women have had an increasing presence in architecture over the last century, and now, with Zaha Hadid's Pritzker Prize win, they have found their way to the highest ranks of the profession. But according to recent statistics, their numbers are still far from equal to those of men.

The 2003 *AIA Firm Survey*, which queried nearly 1,400 member firms, states that women made up 27 percent of staff at architecture firms in 2002—up from 20 percent in 1999. Likewise, almost 21 percent of principals and partners were women, up from 11 percent in 1999. Despite this rapid progress, however, there is a troubling disparity between the number of women educated as architects and the number practicing. Women account for 40 percent of students in bachelors and masters programs, according to the NAAB's 2003 *Statistical Report*.

Taken with the AIA's statistics, this indicates that women are far more likely to leave the profession after their training than men. Hadid has reached the top, but most women aren't sticking around to beat the odds. **Julia Mandell**

FIRE CODES SPUR DEBATE

With memories of the World Trade Center attacks still fresh in people's minds, a watchdog group has made New York City a focal point in its campaign to reform fire regulations after the metropolis recently announced it will adopt the International Codes Council's International Building Code (IBC).



Representatives of the Tarrytown, New York-based Alliance for Fire Safety (AFS) spoke at a January Department of Buildings public hearing in Manhattan designed to let individuals and organizations propose amendments to the IBC. The AFS represents makers of "passive fire-control" technologies—such as fireproofing and gypsum board—and some firefighters; they argue that incentives under both the IBC and the other prevalent code, the NFPA 5000, for owners to install sprinklers instead of passive systems puts occupants at risk.

"We're not trying to pick a fight with the sprinkler people," says Vickie Lovell, chair of the AFS Fire Safety Committee. "In our opinion, the minimum has been lowered" for fire safety.

The AFS claims that sprinklers fail as often as one in six times; the group advocates or the use of sprinklers alongside increased fireproofing and compartmentalization.

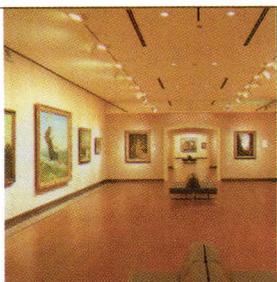
Critics feel the alliance's interests are mostly economic though. "They are absolutely funded by the passive industry," claims Kevin Kelly, the manager of codes at the National Fire Sprinkler Association in Patterson, New York. He cites a 96 percent success rate for sprinklers, claiming "the sprinkler trade-offs will not lower fire safety." Kelly calls the level of redundant fire protection championed by the AFS as "overboard."

The New York City buildings department is still reviewing the proposals. The states of Montana and Colorado are among recent adopters of the IBC. **Jamie Reynolds**

⇒ The AIA has announced that billings and project inquiries at U.S. firms jumped significantly in March. The institute touts improvement in all regions, especially in the South.

⇒ nArchitects has won the fifth annual Young Architects Program, sponsored by New York City's Museum of Modern Art and the P.S. 1 Contemporary Art Center in Long Island City, Queens. nArchitects' bamboo *Canopy* will be constructed in P.S. 1's outdoor courtyard and will feature areas for lounging and sunbathing.

⇒ Rome's mayor has announced an international competition to design a Holocaust museum in Benito Mussolini's former residence. The Villa Torlonia is located above a network of ancient Jewish catacombs, a portion of which the fascist dictator used as a bomb shelter for himself and his family during World War II



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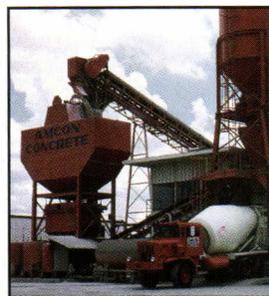
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CEMENT ASSOCIATION SETS GREEN TARGETS

Apparently responding to the momentum of the sustainability movement and reports by environmentalists on the impact of manufacturing, the Portland Cement Association (PCA) has launched its *Cement Manufacturing Sustainability Program*. The voluntary initiative is aimed at decreasing the environmental impact of the cement industry's operations.



The program, to be unveiled at this month's AIA convention in Chicago, has two key targets: to reduce carbon dioxide emissions at cement plants by 10 percent and to reduce kiln dust—a cement byproduct—by 60 percent, both by 2020. Kiln dust can contain dioxins and furans, which are known carcinogens, according to a 1992 report by the Environmental Protection Agency. Carbon dioxide is known to contribute to global warming. **Jamie Reynolds**

WITH ACOUSTICS, NO LONGER JUST PLAYING IT BY EAR

Acoustical design has become increasingly prescriptive in recent years, allowing sound engineers and architects to avoid dead-sounding surprises. Technologies such as ray tracing (a computer-based technique to "see" how sounds travel through a space) and auralization (another digital tool, this one letting practitioners hear how buildings will sound while still in the design phase) have helped to optimize the acoustics of performance spaces. Facilities like Carnegie Hall's new Zankel Hall, in New York City, can even be physically reconfigured by remote control for different types of music.



It was at that venue that Frank O. Gehry and Pulitzer Prize-winning composer John Adams recently spoke on one of the latest developments in sound design: psychoacoustics.

"It's the idea that the musicians can feel the audience and vice versa," said Gehry. In this approach, the relationship between the performers and the environment affects the quality of the performance, and the intimacy of the space affects the perception of the sound. "You create a building as a variable instrument for which there is no history."

During his work for Walt Disney Concert Hall (October 2003, page 66), Gehry extensively surveyed the conductors and musicians who would be using the space. "I embedded myself in that culture," the architect says of the musicians. The resulting wood-lined concert space has been lauded for its acoustic quality and warmth.

Gehry has attempted the same intimacy with outdoor venues as well. His design for the new Jay Pritzker Pavilion (above) at Millennium Park in Chicago features a huge steel trellis—an acoustical canopy—that reaches out from the band shell to cover a 95,000-square-foot lawn space. Hanging from the trellis spans are dozens of sets of speakers that will accommodate a digital sound system intended to simulate concert-hall acoustics. **David A. Brensilver**



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After two decades of attempts both brash and backdoor to sway ventilation and indoor air-quality standards for U.S. buildings, the tobacco industry is finally coming under serious scrutiny by the Atlanta-based American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE), a powerful standards-setting group with about 50,000 members worldwide.

Apparently prompted by a widely read 2002 paper in the Australian journal *Tobacco Control* by Dr. Stanton A. Glantz, a

researcher and professor of medicine at University of California, San Francisco, *ASHRAE Journal* published an unusually self-critical article by the same author last March questioning the standard—ANSI/ASHRAE 62-2001, *Ventilation for Acceptable Indoor Air Quality*—and asking if it violates the group's code of ethics. The report only alludes briefly to involvement by the tobacco industry and Philip Morris in particular, but indicts both the current standard and its underlying test protocols as ignoring health risks associated with secondhand tobacco smoke.

ASHRAE eliminated its table of recommended ventilation rates for smoking areas from its standard in 2002, a move that has been appealed—and denied—six times since. But the latest proposed change still carries a whiff of tobacco smoke with it: allowing air “curtains” and pressurization in addition to solid walls to enclose smoking areas. **C.C. Sullivan**

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⇒ A controversial plan to renovate the 10-story, windowless building at 2 Columbus Circle in Manhattan—designed by Edward Durell Stone as the Museum of Arts and Design—has been approved by a New York City judge. The building, originally home to Huntington Hartford's art collection, will be clad in an Allied Works–designed glass façade over the objections of such high-profile critics as Robert A.M. Stern and writer Tom Wolfe.

⇒ This month, the SmithGroup celebrates 150 years in business, making it the longest-operating architectural firm in the United States. In other firm news, design consultancy Fitch, of Columbus, Ohio, has acquired Retail Planning Associates (RPA), also of Columbus, to form Fitch:RPA. Meanwhile, the Iowa A/E firm Durrant and Minneapolis-based Leonard Parker Associates have merged as Parker Durrant.

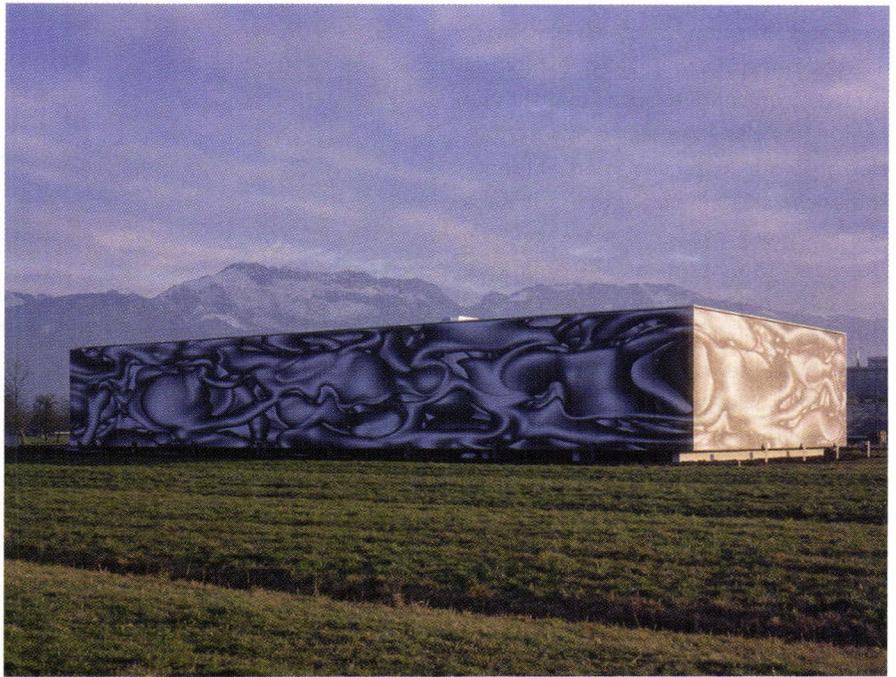
⇒ Andrew Doolan, the Scottish architect and hotelier, died in April at age 52. He was also the sponsor of the Royal Incorporation of Architect's in Scotland's Best Building Award, the country's richest architectural prize. Ernie Bonner, the urban planner and activist who transformed the state of Portland, Oregon's downtown and improved affordable housing in the city, died in April. He was 71.

ALPINE TOUR

Images from a traveling exhibition capture the sights of an emerging architectural hotbed in Western Austria. by Liane Lefaiivre

For a country smaller than Maine, and with just two-thirds of that state's population, Austria—shaped like an elongated wiener schnitzel stretching east to west—has more than its fair share of remarkable architects. Needless to say, Vienna, located at the far eastern edge of the country (so far east, in fact, that it's closer to Bombay than to New York), has tended to steal the show. No wonder: It's a tough act to follow, with works by early twentieth-century architects Otto Wagner, Josef Hoffmann, and Adolf Loos; and more recently, Adolf Krischanitz, Hans Hollein, and Wolf Prix. Emerging firms making waves these days include Alles Wird Gut, Noncon:form, and Silja Tillner, to name only a few.

But there is architectural life beyond Vienna. In fact, an international traveling exhibition, *Austria West*, which will be on view at the Austrian Cultural Forum in New York City from June 24 through October 30 before heading to Helsinki's Museum of Finnish Architecture in November, is bringing much attention to the can't-believe-your-eyes fairytale environment of the Tyrol and Vorarlberg provinces in the Alps. Much of the area's contemporary architecture is regionalist in character and much closer in flavor to the work of its Swiss neighbors to the west than to that of Vienna. Margarethe Heubacher-Sentobe's wood, glass, and concrete house for a pianist-composer (1996), for example, seems to have been extruded from its steep site in the Tyrol. Christian Lenz's Lechblick apartment house (1999), a bar-shaped building wrapped in oiled-larch boards, sits high above a valley in the Vorarlberg, while the walls of Marte.Marte Architekten's tiny rammed-earth chapel (2001) become a low enclosure for an addition to its cemetery. Baumschlager & Eberle's



At Dietrich/Untertrifaller's Walch's Event Catering Center (top), the prefabricated timber structure is wrapped in a printed screen by artist Peter Kogler, neutralizing scale and dimension. In contrast, Christian Lenz's apartment block (above), with its conventional wood siding and balconies, is more overtly contextual.

Sebastianstrasse housing development in urban Dornbirn provides privacy with translucent sliding glass exterior panels. Clad in a variety of materials, some polished, others more rough, all of these projects emphasize the same minimalist timber construction reminiscent of early neorustic buildings by Swiss architect Peter Zumthor.

SUBSTANCE OVER STYLE

It would be wrong, however, to assume that all of this new generation of Alpine

architecture references traditional timber construction. There couldn't be anything less quaint or romantic than architect Dietrich/Untertrifaller's Walch's Event Catering Center (2000) in Lustenau, for instance, which is clad in a woven canvas skin made to look like liquid mercury with the help of Austrian artist Peter Kogler. And Peter Lorenz's Blue Hall ski academy (2001) in St. Christoph am Arlberg also departs from the Zumthor-inspired school, with its big, bright-blue prefabricated industrial shed made of



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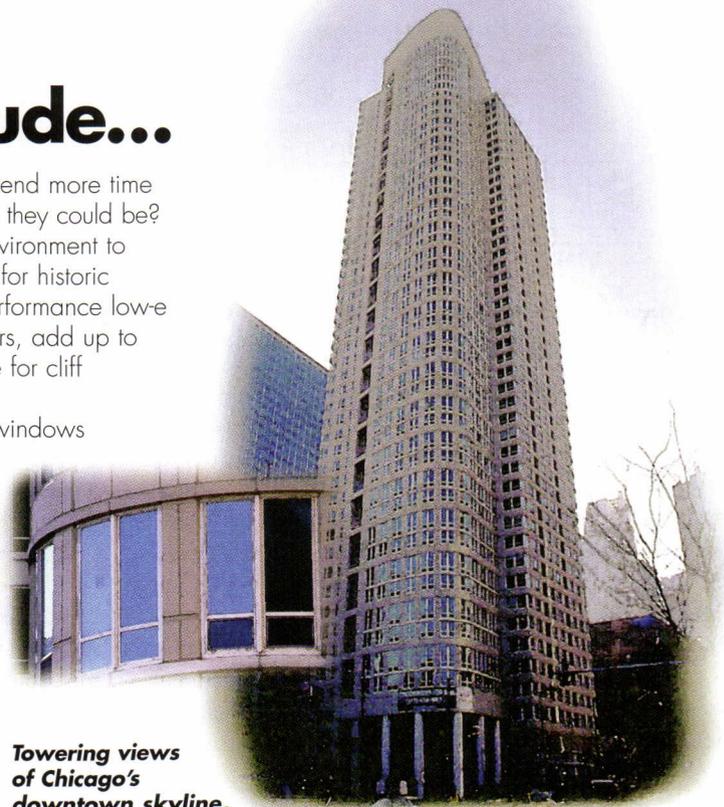
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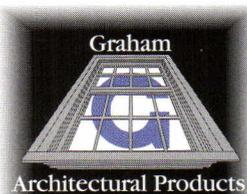
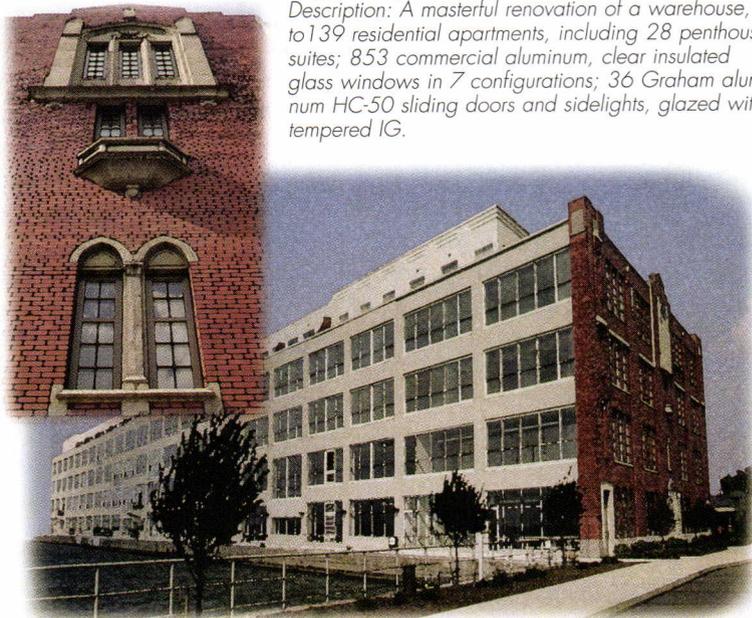


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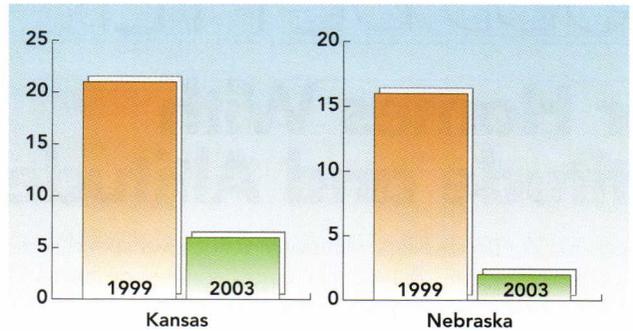
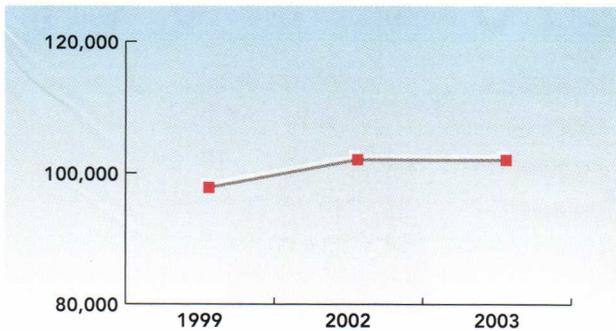


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While registration numbers nationally have been steady (left), some states—such as Kansas and Nebraska—have seen precipitous drop-offs in licensing activity over the last few years (right).

For big firms, it's rarely been a concern, but for smaller firms, it can be a serious quandary. For state architectural examiners, it's a cause of much hand-wringing and, in some cases, reform. But for the National Council of Architectural Registration Boards (NCARB), it's nothing to worry about.

Its registration, of course: the internship, the exam, and the license itself. And eight years after the test went computerized and doubled in cost—which many believe contributed to perennially plummeting registration numbers—licensing levels are somewhat stable nationally. But in some states, it's still off dramatically. (California, for example, had 1,339 initial registrations in 1989, versus last year's 420.) While such drop-offs might be statistical blips or "economic corrections"—the number of architects per capita in California tripled between 1960 and 1990—firm leaders still wonder whether the profession is doing right by its youngest members. And many practitioners have concluded that we're not.

In response to dwindling registration activity, a number of states—including Texas and California—have amended their licensing rules to allow overlap of internship and exam.

"There's definitely frustration with the way the exam's design portion is administered," says Randy Cook, a principal of Thomas Cook Reed Reinvold Architects, a 30-person firm in Tacoma, Washington. "It's 100 percent electronic and mechanized and divorced from the creative component. What you're doing is dragging and dropping icons, not creating something from scratch."

DEFENDING THE ARE AND IDP

NCARB defends the test for its convenience, among other things. "As a working mother, you might prefer the computerized exam and scheduling one division at a time," says Lenore M. Lucey, the board's executive vice president.

John Cary, whose group ArchVoices represents interns, faults the Internship Development Program (IDP), which has been a prerequisite for the Architectural Registration Exam (ARE). "We should have a seamless process from graduation to registration, but right now there is a broken link, which is IDP," says Cary. "Taking ARE concurrently with internship is the best change that could be made."

On this point, NCARB is also conflicted. "Some of our member boards think that taking the ARE early will

encourage more participation," says Lucey. "But the ARE is written to test what you've learned in practice."

Still, several states—including Texas, California, Florida, and Arizona—have amended their rules to allow some overlap of IDP and exam-taking, and they're reporting growing registration numbers. "It's been a huge success; hundreds more have taken the exam," says Cathy L. Hendricks, executive director of the Texas State Board of Architectural Examiners in Austin. "We've had some finish the exam and still have more internship to go, which is fine." And because test-takers often drag out the exam for years, Texas also instituted a mandatory five-month window for completion of the entire test, a rule that NCARB is reportedly considering as a national policy.

The crux of the issue is finding time to study for the ARE, says Susanna Wight, AIA's emerging-professionals director, citing statistics from the group's 2003 *Internship and Career Survey*. "The number-one reason people didn't take the exam was a lack of time to prepare. Young people are busier every day, and many have families and jobs." But Wight adds that many smaller firms worry that their interns feel little incentive to get licensed.

FIRMS CAN DO BETTER

NCARB's Lucey faults firm leadership. "Smaller firms in general don't assist their young people financially, and many don't have study groups," she contends. "It's all internship mentoring, and that's been neglected for so long."

Larger firms tend to have stronger cultures and expectations regarding licensing—and more resources to lend such support. "At our firm, people want to get registered as soon as possible and be bona fide professionals. It's competitive, in fact," says Stephen M. Davis, a partner with New York City's Davis Brody Bond. "We provide study materials and pay for their time off and their first time through the exam. You get one bite of the apple on us."

Yet, such an environment is rare today, laments L. Kirk Miller, an architect and past president of the California Architects Board: "Taking the exam is simply no longer a rite of passage." **C.C. Sullivan**

NCARB

VISITATION RIGHTS

Atlanta's leading accessibility advocate takes aim at an unusual target: our homes. by Anna Holtzman

"Visitability." It's a hard-to-pronounce name for a simple idea, namely, that of making all homes—including private, single-family dwellings—accessible to people with permanent or temporary disabilities. The term was coined by accessibility activist Eleanor Smith, who founded the Atlanta-based group Concrete Change in 1986 to bring the concept to the public's attention. Smith, who is herself confined to a wheelchair, came up with the idea while driving around a residential neighborhood in her city: "I thought for the first time, 'Visitability could become the norm.'" Her cause has since gathered a national following, with proponents as far flung as Arizona and Illinois.

The nature of the visitability movement is two-fold. First, it focuses on making all homes accessible, not just those that are occupied by disabled persons; people with physical challenges, who according to the 2000 U.S. census comprise 19 percent of the nation's population, are often isolated due to the difficulty of navigating friends' and neighbors' homes. Second, it concentrates on only the most essential features of accessibility. "You have to have a short list," says Smith, "or people would tune it out." The basics are defined as one "zero-step," or grade-level entrance for every home; at least 32 inches of horizontal clearance for all ground floor doors—including bathroom doors, which are typically the most narrow—and hallways; and at least one half-bath on the ground level. The logic behind designing these measures into homes for nondisabled people? One never knows when friends or family members will need the features. Plus, "It's hard to retrofit houses," says Smith, adding that instituting visitability at the design phase "is really simple and inexpensive to do."

A GROWING MOVEMENT

Smith's crusade started at a grassroots, word-of-mouth level. "Builders didn't get it at all at first," she recounts. Progress since then has been slow but steady. Atlanta instituted a city ordinance in 1992 mandating visitability features for all new, publicly funded home construction. In 1998, Austin, Texas, followed suit, later expanding its ordinance into a state law in 1999—an action that was replicated by the state of Georgia in 2000. The most radical implementation of visitability to date is in Pima County, Arizona, which passed its "Inclusive Home Design Ordinance" in 2002 requiring visitability features including a no-step entrance for all new homes, whether publicly funded or not. Last December, this legislation was supported in case law when the Arizona Court of Appeals shut down a suit filed by the Southern Arizona Home Builders Association to void the ordinance.

As for national legislation, in 2002, congresswoman Jan Schakowsky of Illinois introduced the *Inclusive Home Design Act*, which, if passed, would require all three of Concrete Change's basic features of visitability for publicly funded housing nationwide. While Smith speculates that the act still has a long way to go before passing, Schakowsky's



This home in Salt Lake City, Utah, was designed with visitability in mind. The "zero-step" grade-level entrance allows those with physical challenges to enter with ease.

staff attests that the representative continues to actively promote it.

FACING CHALLENGES

Since the beginning, visitability has faced resistance from the National Association of Home Builders (NAHB) at national and local levels, but the opposition may be waning: Last March, the Greater Atlanta Home Builders Association came out with an estimate for the costs of constructing visitable homes that was significantly lower than previous estimates. (Cost had been used by NAHB and others as a tack against enforcing residential accessibility.) Yet, enforcement continues to be an issue of contention for developers of housing. Leslie Marks, executive director of the Seniors Housing Council at NAHB, states that the group has "a position on creating homes that are accessible for all people, and we believe it should be a voluntary program, not a mandatory program. When you mandate something like that, you are affecting affordability—for example, if you're building in cold areas, and you have a frost-line, creating a no-threshold entry is more expensive." Marks continues, "Those people that need and want accessibility should have that choice. People that don't, and don't want to pay the additional cost, shouldn't have to."

Good point. But this is precisely the attitude that Eleanor Smith is fighting against. The intention of visitability is not simply to make accessible homes for people with disabilities, but to create accessible communities. ■

CORRUPTION: HOME AND AWAY

In your municipality or across the globe, bribery and fraud persist in the A/E/C world. by Jamie Reynolds

The profession of architecture is highly regulated—through rigorous training, licensing, and continuing education—but it dovetails with the one commercial sector that, according to the ethics watchdog group Transparency International (TI), has the highest potential for corruption: the construction industry.

Berlin-based TI published its *Bribe Payers' Index (BPI)* in 2002, listing "public works/construction" as more prone to bribery than the arms trade or the oil industry. Recent news stories bear this out. In April in New York City, 22 alleged

mob operatives were charged with running a drywall contracting racket. In Trenton, New Jersey, a member of the state's Casino Control Commission ruled that contact with "disreputable characters" in the construction industry was pretty much "unavoidable ... even inevitable."

Architects are sometimes affected. Take permit expeditors: They assist in navigating the nuances of building codes and approval processes, often at a cost of \$3,000 or more per project. Though undoubtedly most are ethical, 26 expeditors

were disciplined by New York City's Department of Buildings last year for improper activities. Miami expediter Mikel Isaac was arrested in November for giving out false certificates of completion and occupancy, and for practicing architecture without a license.

To many jaded designers, such shenanigans are almost expected. More rare is when architects themselves actively engage in fraud. In April, British architect Guy Pound landed a three-year jail term for billing a charity at inflated rates, in some cases for work that was never done. More typically, American A/E/C practitioners working overseas may be tempted into engaging in petty or "harmless bribery," seeing it simply as the cost of doing business in some locales. (The BPI identified companies from Russia, Taiwan, and China as being likely to participate in bribery when working abroad, perhaps indicating acceptance of the practice at home.) But be forewarned: Under the 1977 *Foreign Corrupt Practices Act*, American firms can be prosecuted by U.S. authorities for illegal activities committed outside the country.

The building industries are making efforts at self-policing. At this year's World Economic Forum in Davos, Switzerland, 19 international engineering and construction firms adopted a "zero tolerance" policy to combat corruption. But the reality of corruption in the sector seems unlikely to disappear soon. Some 835 respondents in the BPI survey were asked if they thought the level of industry corruption had changed in their countries; 27 percent perceived an improvement, but nearly just as many—23 percent—felt matters continued to decline. ■



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➔ DILLER SCOFIDIO + RENFRO | LINCOLN CENTER/WEST 65TH STREET TRANSFORMATION | NEW YORK CITY

Last year, New York City's Lincoln Center selected architects Elizabeth Diller and Ricardo Scofidio, along with their partner, the recently promoted and longtime collaborator Charles Renfro, to re-envision its West 65th Street presence, currently marred by an ugly overpass.

The \$325 million project includes: a narrowing of 65th Street and a broadening of its sidewalks; a translucent foot-bridge to replace the present concrete overpass; and a widened grand stairway on the south side of the street that leads up to the North Plaza (sited between Avery Fisher Hall and Lincoln Center Theater), which gains a restaurant with a public lawn atop its paraboloid roof. The Juilliard School for dance, drama, and music, on the north side of the street, is reclad at the ground level in glass, with LED graphic displays. The building is expanded by 30,000 square feet, and its slablike concrete form is cut into a wedge at its east end so that the monolithic structure appears to rear up like the prow of a ship. Expansions and renovations also add a new Film Society complex adjacent to the North Plaza's stairway, and enhanced facilities at Alice Tully Hall (the performance venue within the Juilliard building), Lincoln Center Theater, and the Rose Building, which houses a host of organizations. Groundbreaking is slated for 2006. **Anna Holtzman**



view of The Juilliard School after alterations



North Plaza, viewed from Lincoln Center Theater



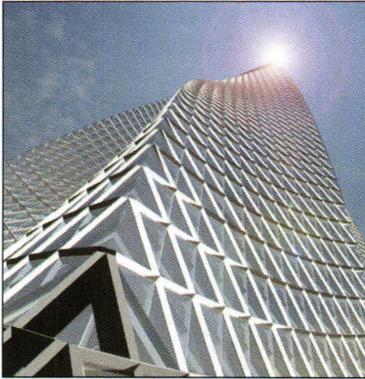
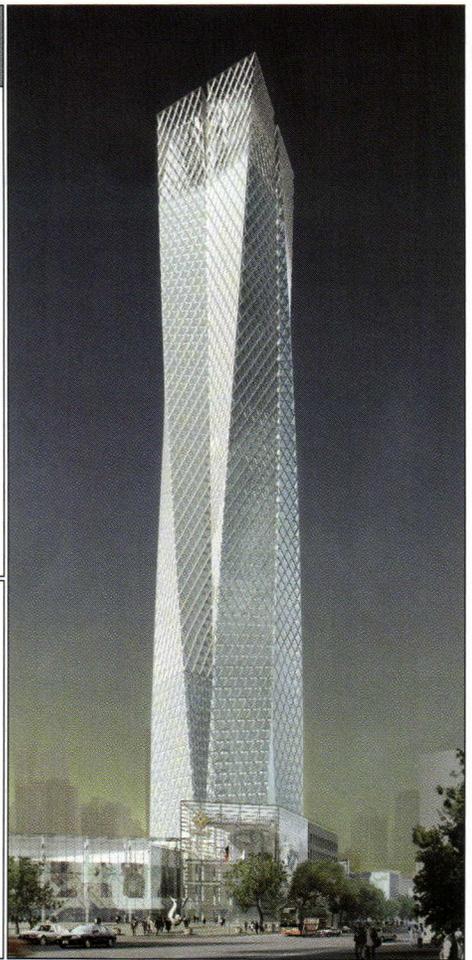
North Plaza, facing restaurant



West 65th Street, facing west

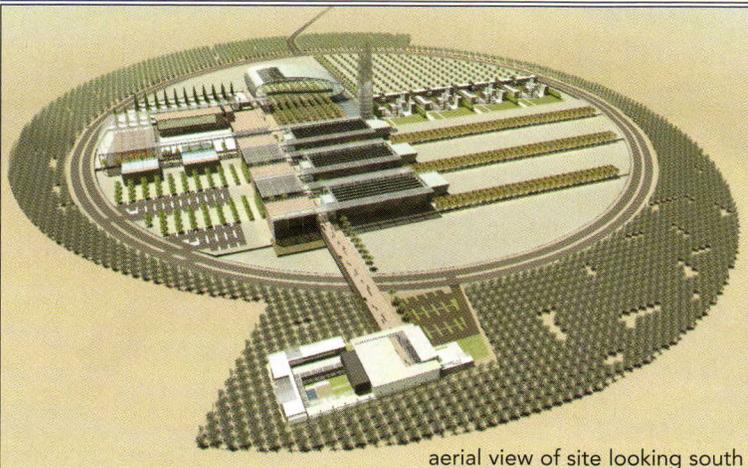
SKIDMORE, OWINGS & MERRILL | JINLING TOWER | NANJING, CHINA

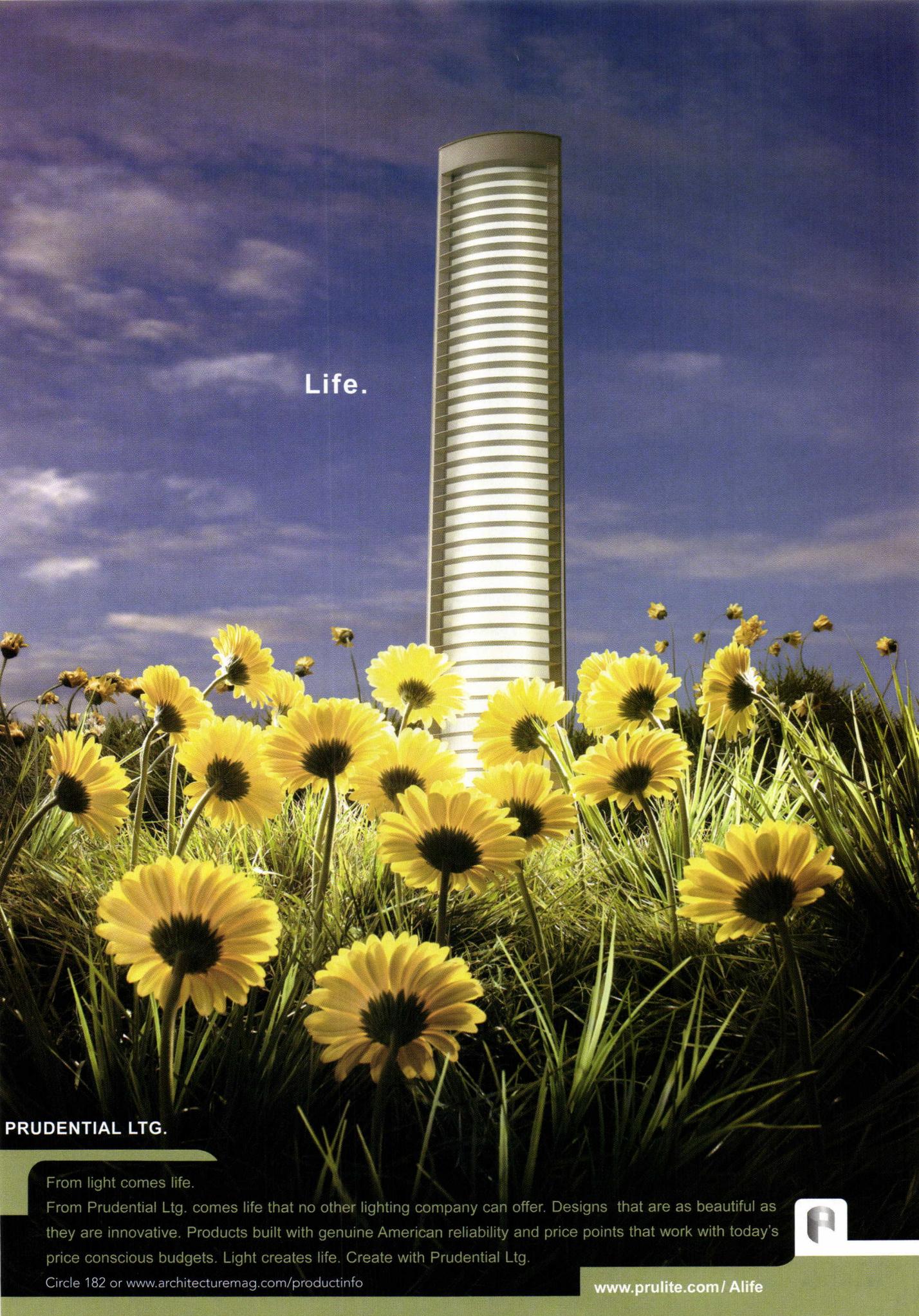
At 88 stories tall, the Jinling Hotel Tower in Nanjing, China, aims to make a bold mark on the skyline of this ancient provincial capital city of 5 million on the Yangtze River. A diamond-shaped structural mesh encloses offices, apartments, and a hotel. The tower is divided into four quadrants, each rotating 90 degrees as it ascends 1,050 feet from the ground to the sky. Changing programmatically from commercial to residential to hospitality uses as it rises, the twisting geometry begins as a complete square, shifts to an X shape along the building's midsection to expose more apartments to views, and culminates in a square occupied by the hotel's 28-story atrium, which has slit windows on all exposures and a glazed roof. Back down at street level, low-rise structures to the north and south of the tower house a spa, a health club, and support services. Retail and parking is subterranean. Groundbreaking is scheduled for 2005. **Abby Bussel**



SKIDMORE, OWINGS & MERRILL | BRIDGING THE RIFT CENTER | ISRAEL-JORDAN BORDER

As divisiveness continues to hold the spotlight in the Middle East, a bridging of differences is taking place in the Wadi Araba area of the Israel-Jordan border, where a new life-sciences institute is being built. Sponsored by an international consortium that includes Cornell and Stanford universities as well as business leaders and government officials from the two host countries, the Bridging the Rift Center aims to educate the region's young scientists and develop the first data-bank of information about all living systems. Set on 174 acres south of the Dead Sea—half contributed by Jordan, half by Israel—the scheme by Skidmore, Owings & Merrill is organized as a village in the desert with housing for 1,000. A north-south spine lined with academic buildings and laboratories bisects the circular site plan, which is defined by two arc-shaped groves of olive trees; a conference center sits at the south end of the spine and a retreat terminates the north end. Built of desert limestone, metal, and glass, the project employs active and passive energy-management technologies. The first phase is slated for completion in 2006, with total build-out by 2016. **Abby Bussel**





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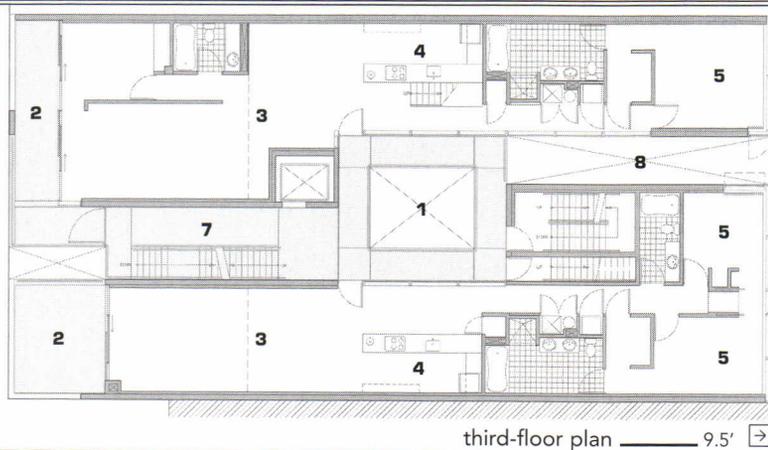
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➔ ZOKA ZOLA | MIXED-USE BUILDING ON GRAND AVENUE | CHICAGO

Commissioned by a landscape designer, this mixed-use building is sited in an industrial district of Chicago where zoning requires commercial spaces at ground level. The \$2.8 million, 14,000-square-foot project includes two commercial units plus five parking spots on the first floor, condominiums on the remaining four stories (the top two will be occupied by the client), and a roof garden to reduce storm-water flooding and provide heat transfer.

On the first through fourth floors, the structure's rectangular plan is sliced by a 6-foot-wide outdoor corridor that opens onto the back of the building and by a parallel void that opens onto the front, meeting in a central, square courtyard. The corridors are offset from one another, allowing only a sliver of light to pass from one end of the building to the other. On the street side, these passages are flanked by cantilevered rooms with floor-to-ceiling windows. Through this highly transparent façade, local architect Zoka Zola intends to encourage a sense of community in this underdeveloped neighborhood. Construction is slated for fall of this year. **Anna Holtzman**

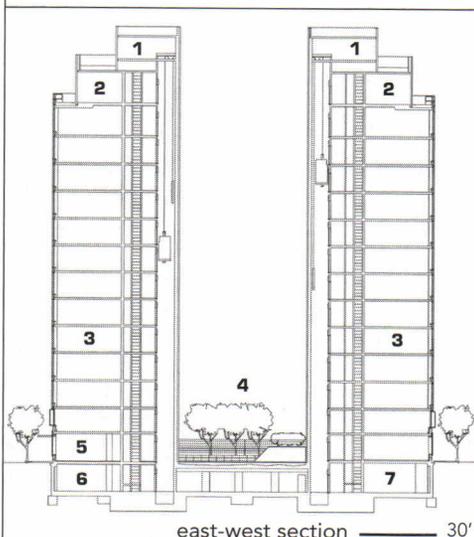


- | | |
|----------------------|--------------------|
| 1 courtyard below | 5 bedroom |
| 2 terrace | 6 street |
| 3 living/dining area | 7 outdoor corridor |
| 4 kitchen | 8 void |

➔ GARY EDWARD HANDEL + ASSOCIATES | 505 GREENWICH | NEW YORK CITY

Designed to emulate its neighborhood of hulking, industrially appointed former printing plants, a 14-story loft-style condo residence near Manhattan's Holland Tunnel exhaust stacks presents a refined yet tough material palette at street level. An oxidized copper plate, punctuated with copper light boxes and bead-blasted stainless-steel doors, covers the first two stories. Above, a taut curtain wall and subtly hued precast-concrete masonry reinterpret the printing buildings. Not only does its image break free from the city's drab brick-and-punched-window multifamily formula, but so too does the plan. The 197,000-square-foot complex comprises two buildings with a connecting garden courtyard and corridor lobby, intended to appeal to a sociable, youthful set. (For variety, the court-facing exterior features accent walls of undulating precast.) Living

units range from one to three bedrooms, the latter for what realtors like to call the "baby-maybe" hipsters, who will move in upon completion in early 2005. While the solutions seem sensible for the project, they are somewhat new to architect Gary Edward Handel. Known best for his large-scale, developer-friendly towers, his works have offered little reference to industrial prototypes. With this opportunity, Handel explores anew the changing nature of the modern city. **C.C. Sullivan**



- | |
|---------------------|
| 1 mechanical |
| 2 penthouse |
| 3 residential units |
| 4 courtyard |
| 5 lobby |
| 6 storage |
| 7 service |





THE CITY ACCORDING TO NORMAN FOSTER

Just as when Frank Lloyd Wright unveiled his spiraling Guggenheim to Gotham more than fifty years ago, the completion of Norman Foster's new curvilinear high-rise in London has created quite a hullabaloo. 30 St. Mary Axe, a 590-foot-tall office building owned by Swiss Reinsurance that opened in April, is both revered as a revolution in skyscraper design and disparaged for its suggestive shape. Whatever one thinks of the way his "gherkin" marks the skyline or meets the ground, Foster reimagines the city—and high-rise life—without apology. Swiss Re's aerodynamic form not only maximizes views out, but it reduces wind loads on the diagonally interlocking steel structure and glass cladding. And unlike its right-angled brethren, the tapering tower does not deflect wind to the street, so the building has a public plaza that is actually habitable. Foster's ideas for a livable city extend, of course, to resource-conscious design: Multistory light wells and natural ventilation reduce energy use while improving indoor air quality and increasing the infiltration of daylight. What's not to like?





OFF THE GRID

Foster and Partners reimagines the office tower—and the London skyline—with a design that gets back to nature. **BY CATHERINE SLESSOR**



For such a dynamic, modern city, London exhibits a curious fear of heights. The English capital does not do tall; instead, it sprawls. It's a mid-rise metropolis. Building high in London is seen as slightly suspect—the residential tower blocks of the 1960s were a social disaster, and Richard Seifert's unloved Centrepoint remained empty for decades, a 35-story monument to capitalist folly. Cesar Pelli's 50-story Canary Wharf tower—a kind of Battery Park City lite—is currently the tallest structure in London, but also one of the most banal, a square shaft surmounted by a pyramid. Most of these high-rise buildings are corralled in “the City,” London's commercial heart, but the area's tight medieval street pattern and the need to defer to St. Paul's Cathedral (a city-wide planning imperative) tend to inhibit architectural ambitions. From a distance, the skyline of the City resembles a cluster of staid businessmen at a cocktail party, keeping a respectful distance from their host.

The latest addition to this towering ensemble is quite different. With its distinctive cigar-shaped profile, 30 St. Mary Axe is a saucily curvaceous standard-bearer for greener, cleaner corporate buildings, part of an ongoing investigation into ecology and technology by its architect Norman Foster. Radically redefining the office tower, it is London's newest and most suggestive landmark. Epithets abound—gherkin, airship, windsock, Argyle sock, lipstick, phallus, and missile. Peter Davey, editor of London-based *Architectural Review* (of which this writer is a staff member) was moved to describe it as “a

fat banker in fishnet stockings.” At 40 stories and with 500,000 square feet of office space and the potential to accommodate 4,000 people, it is some banker.

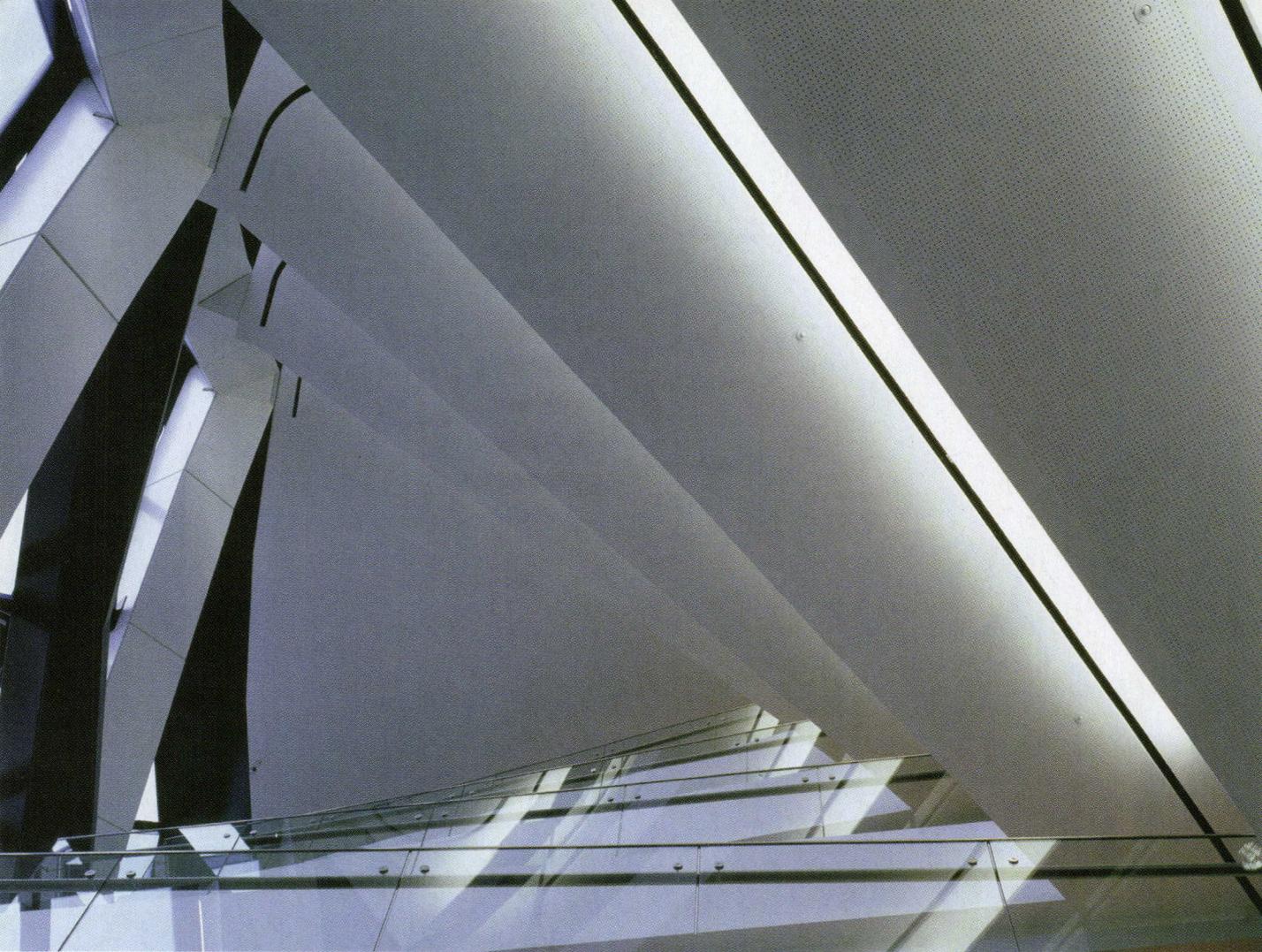
A FUNCTIONAL FORM

The curves and fishnets do have a serious point, however. The building sits on a cramped site, where the old Baltic Exchange shipping brokerage used to stand before being irreparably damaged by a terrorist bomb in 1992. The tapering form of Foster's design streamlines and reduces the tower's impact at street level, and the aerodynamic profile deflects air around and away from the building. So rather than a windswept precinct, ground level is actually habitable, a civilized public piazza with benches and trees that breaks out from the corset of the medieval street plan. Looming overhead, overlapping diagrids of steel structure and glass cladding envelop the tower in an intricate lattice of shimmering triangular scales. The effect is at once glamorously futuristic—with a clear conceptual nod to Buckminster Fuller—yet also reminiscent, as one critic noted, of the leaded casement windows of Tudor houses, reinvented for the twenty-first century.

Conscious or not, this fusion of cutting-edge modernity with comforting tradition doubtless played well with Foster's client, the reinsurance giant Swiss Re, which now occupies eight floors halfway up the tower and aims to lease out the remainder. To provide the necessary column-free workspace,



The tapered form of Norman Foster's wide-body tower is unlike that of any other building in London (facing page), as radical a presence today as its neighbor, Richard Rogers's Lloyd's of London, was when it was completed in 1986. Where Rogers turned his building inside out to show how it works, Foster's lets the outside in. Circular in plan, the office floors allow panoramic views and abundant natural light (above). A cavity between the two layers of glazing is ventilated by air drawn from the offices, reducing solar gain and air-conditioning loads.



floors are supported by beams spanning from a central core to a perimeter structure of a triangulated steel grid, with each triangle spanning two stories. Floor plates vary in size relative to the tower's taper, with six large triangular incisions cut into the interior, while the floor plans resemble spokes in a wheel or a chunky asterisk. And each asterisk is rotated five degrees as the building rises, creating a series of light wells that spiral around the tower.

VIEWS AND VENTILATION

Clearly distinguishable on the façade by bands of darker glazing, the stacked voids have solid floors every six stories. Environmentally, the triangular volumes act as the building's lungs, exploiting pressure differentials to draw in fresh air that helps regulate the internal climate and reduce the need for mechanical air conditioning. Predictions suggest that for about five months of each year, the building can be largely ventilated by natural means, part of a strategy of energy conservation set well beyond current national requirements. Experientially, the spiraling voids open up the interior, dispelling the oppressively deep floor plans and low ceilings found in most office settings, by engendering a connection with the wider world.

Swiss Re's own floors have been fitted out by Bennett Interior Design, a local firm, in a mode of appropriately elegant understatement. Low cabinets preserve sightlines and views, which are framed by the lattices of structure, cladding,

and an internal layer of Venetian blinds controlled by the building-management system to eliminate disruptive individual fiddling. There are no bad desk locations, only a continuum of good to great views. Breakout spaces are located along the edges of the light wells, natural places to congregate for a chat or change of scene. Upper floors contain dining rooms, with a master-of-the-universe bar at the very top boasting an unrivalled 360-degree panorama of London.

Beyond its technical sophistication and green credentials, Swiss Re is an important building for London, acting as a vanguard for a new generation of high-rise design. This prospect is championed by Mayor Ken Livingstone, as well as business leaders looking to increase the amount of office space in the capital. Livingstone has suggested that over the next decade 15 new towers could be built in London, and there are clear signs of renewed political and popular enthusiasm for their rise, despite the reservations of heritage groups and counterterrorism experts. Renzo Piano's London Bridge Tower (66 stories) received planning permission last year, and there are high profile projects by Nicholas Grimshaw (Minerva, 50 stories) and Richard Rogers (Leadenhall Street, 48 stories) in the works. Should all these come to fruition, they will have a profound effect on the skyline and consign the mid-rise metropolis to history. Thanks to a fat banker in fishnets, London may finally get over its fear of heights.

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Fresh air is drawn through light wells that spiral up the building, ventilating the offices and helping to bring daylight deep into the workspaces (facing page). According to the architects, the tapered form of the tower “generates pressure differentials on the façade that greatly assist this natural flow.” Balcony areas created by the light wells are meant to be used for formal and informal meetings (above). Cladding of the light well exterior walls includes both operable and fixed double-glazed panels with tinted glass and a high-performance coating.

EVERYTHING IS ILLUMINATED

A RESIDENTIAL TOWER BY SHOP ARCHITECTS REMAKES THE PAST USING THE DIGITAL PROCESSES OF THE FUTURE.

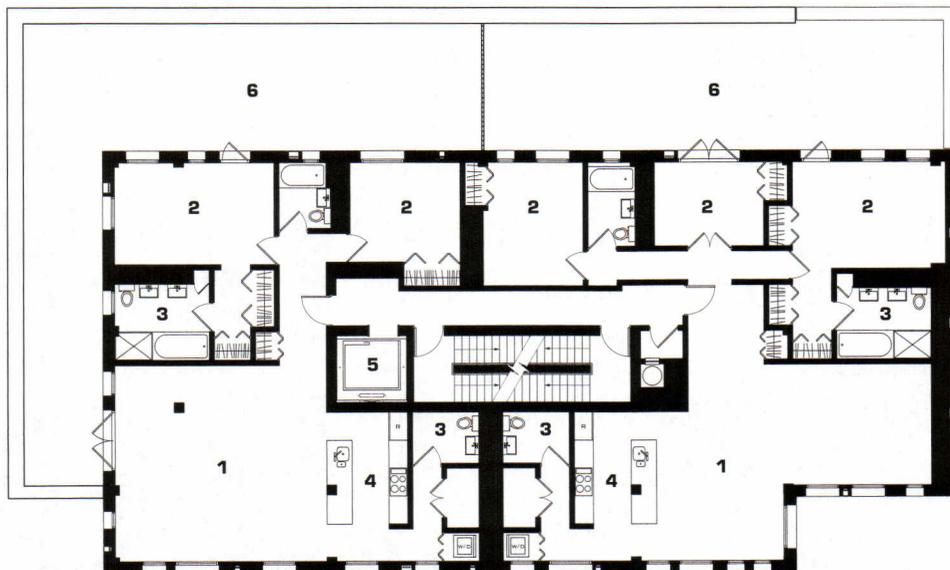
BY JULIA MANDELL | PHOTOGRAPHS BY ADAM FRIEDBERG







The high-end apartments in Porter House are cleanly detailed and spare, privileging the view (above). The architects chose floor-to-ceiling windows to emphasize the relationship of occupant to city and to comment on the modernist fascination with Le Corbusier's horizontal window. The project required intense hands-on guidance for the installation of the zinc façade (right) as well as a number of other complex moves, including centralizing the existing service core.



- 1 living room
- 2 bedroom
- 3 bathroom
- 4 kitchen
- 5 elevator
- 6 terrace

seventh-floor plan 7' 

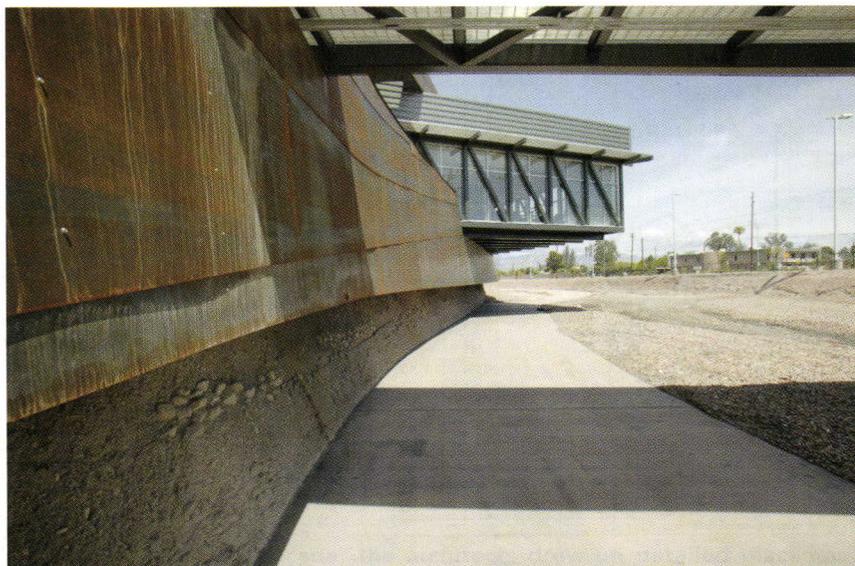


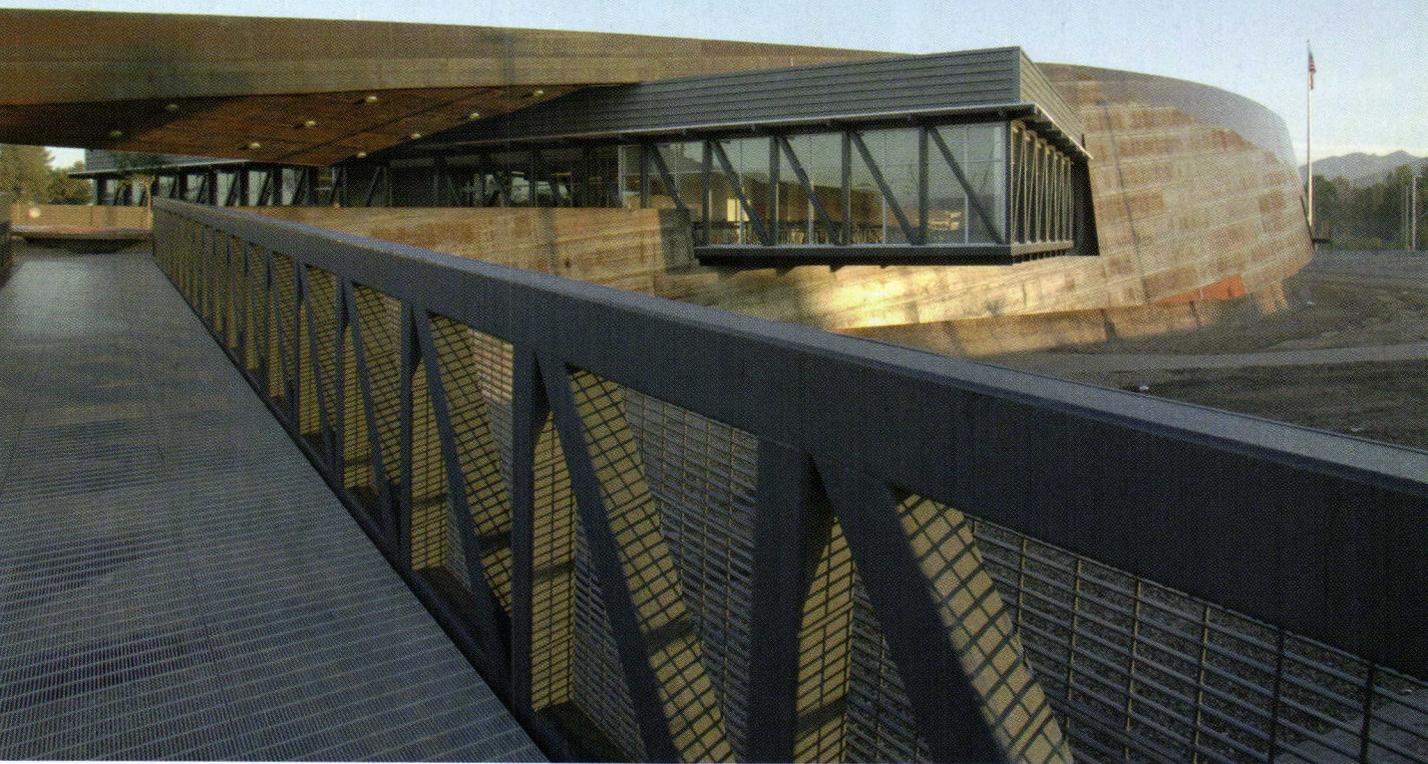


FLUID DYNAMIC

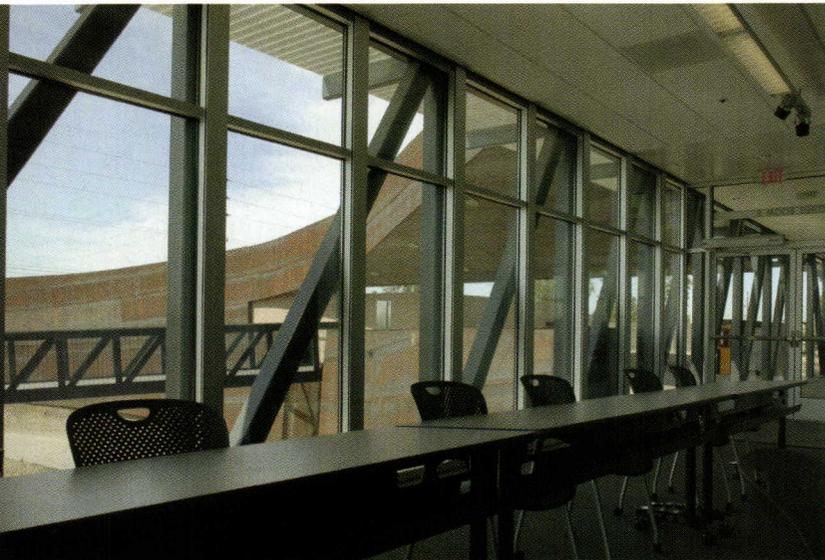
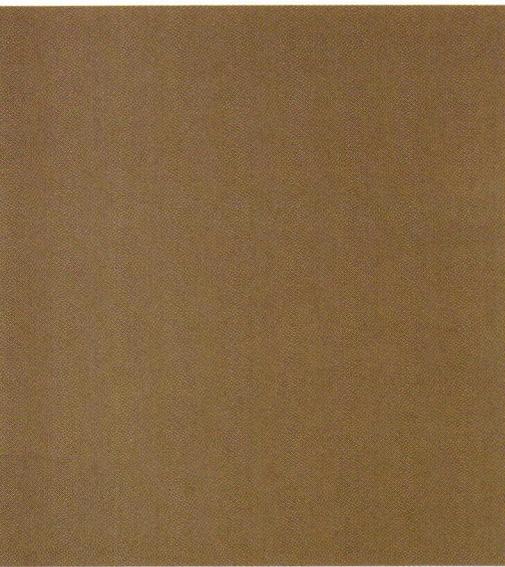
ARCHITTEKTON SHAPES AN URBAN
LANDFORM TO PROTECT TUCSON
FROM FLOODS—AND GIVE THE
CITY AN EDGE.

BY LAWRENCE W. CHEEK
PHOTOGRAPHS BY BILL TIMMERMAN





Facing a strip-zoned commercial area, a new municipal building in Tucson contains a police substation—as well as occasional flood waters. The desert wash that channels the rainwater also defines the sweep of the structure's public face, which is clad in Cor-Ten panels (facing page). A ramp, a footbridge, and the protruding corner of a community meeting room suggest the accessibility and utility of the landform.



An inviting breezeway is revealed where the municipal building's program penetrates the curving, monumental wall (above), creating a place where the community can gather and watch occasional storm waters. Inside, a community meeting room (left) offers views of the wall and the neighborhood. Despite its sculptural public face, the occupied facility is a simple and inexpensive box on a 20-foot-by-62-foot structural grid.

A web of dry desert washes—more mellifluously called *arroyos* in Spanish—laces the city of Tucson, forming conduits for urban coyotes, dirt-bikers, and, periodically, mocha-brown flash floods of staggering ferocity. Normally—and rightly—architects keep buildings away from them.

Occasionally, though, an architect will make an audacious gesture—after very thorough hydrological studies (see “From Hydrology, Form,” page 87)—such as spanning an arroyo with a structure. Now, the Tempe, Arizona, firm Architekton has ventured beyond audacity to create an unnatural but functional arroyo on an urban floodplain, using the form of the wash to inspire the sculptural façade of the building that perches at its very edge. The result is something that arises less often in Tucson than a 100-year flood does: a municipal building with a dramatically expressive countenance that is perfectly attuned to its desert home.

The new facility wears a name that only a bureaucrat could love: the Midtown Multi-Service Center. Essentially, it's a police substation garnished with miscellaneous city government offices and community meeting rooms, all totaling about 48,000 square feet. And it fulfills a demanding pro-

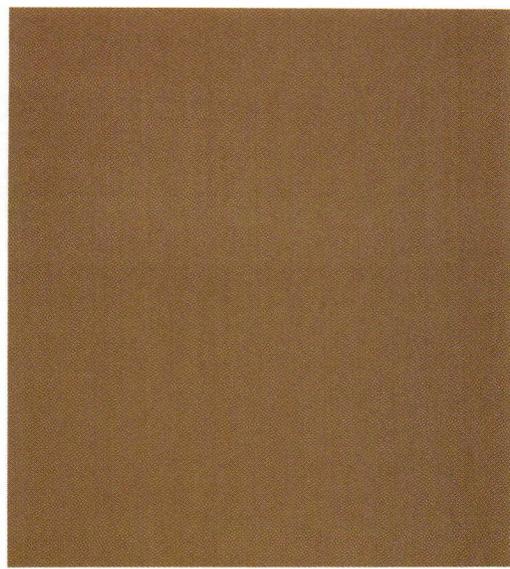
gram: keep operating 24 hours a day as an emergency command post even while ensnared in that 100-year flood.

A LANDFORM SERVING A CITY

“Our work is a balance between the expressionistic and intuitive, and the wholly pragmatic,” says Architekton principal John Kane. (His firm was associated with GLHN Architects & Engineers of Tucson for this project.) “We were trying to create not so much a building as a landform here, but at the same time it had to be simple and practical—and as we got into budget issues, it became even simpler.”

The site is at an intersection of two of the city's unlovely strip-zoned six-lane arterials, which tend to become de facto rivers during major storms. Architekton's idea was to scoop out an S-shaped channel on the site's east side to form a collector for the sheets of water that would assail the building, channeling the runoff into a retention pond in a large city park to the west. Police could then retain access to the street even in worst-case conditions through a ramp and bridge spanning the artificial arroyo.

The sculptural façade—a swoop of Cor-Ten panels



The Cor-Ten-clad wall framing and its cast-in-place concrete base (above) suggest the colors and textures of the Catalina Mountains and Sabino Canyon nearby. An existing reclaimed-water lagoon close to the building (right), as well as a golf course and jogging path, connect the municipal services provided at the new facility to a broader web of civic amenities.



extruded from the concrete-block structure like an umbrella held against the wind—fools passersby into imagining a complex building behind it, but there isn't one. It's a two-level shoebox with absolutely no stirring interior spaces. The police offices and workrooms are concerned with security, not views; daylight squeezes in through clerestories and a constellation of 47 skylights. A corner of a community meeting room bursts through a slot in the swoop, like a nose in a Picasso sketch, but the clever interplay of forms is all on the surface: What you see is all you get. The meeting room might provide great box seats for studying the fluid dynamics of a flood, but otherwise it's nothing interesting.

This underlying simplicity is what convinced the city to accept such an uncharacteristically dramatic public face on a minor-league \$10 million facility. "We really focused on solving the problem and respecting the budget," says Kane. "It's not like we dropped something alien into the landscape."

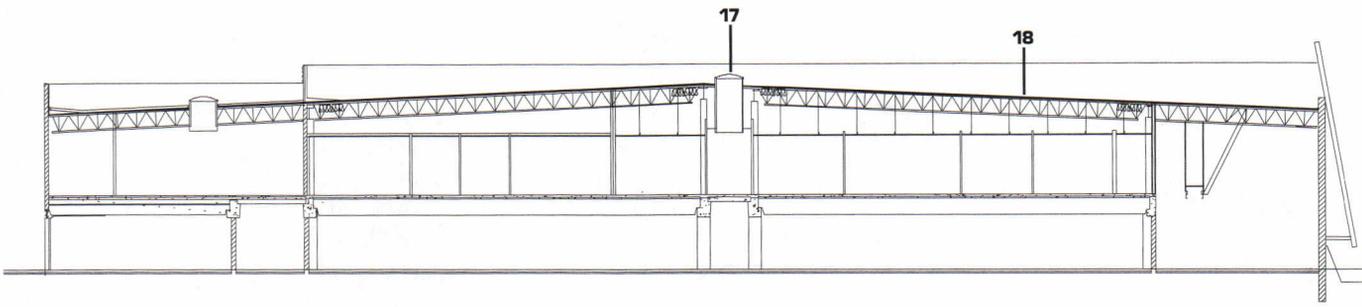
NO TACO DECO

But the structure's secretly humdrum inner life is irrelevant to the Tucsonans who'll never pay a visit to the cop shop. For

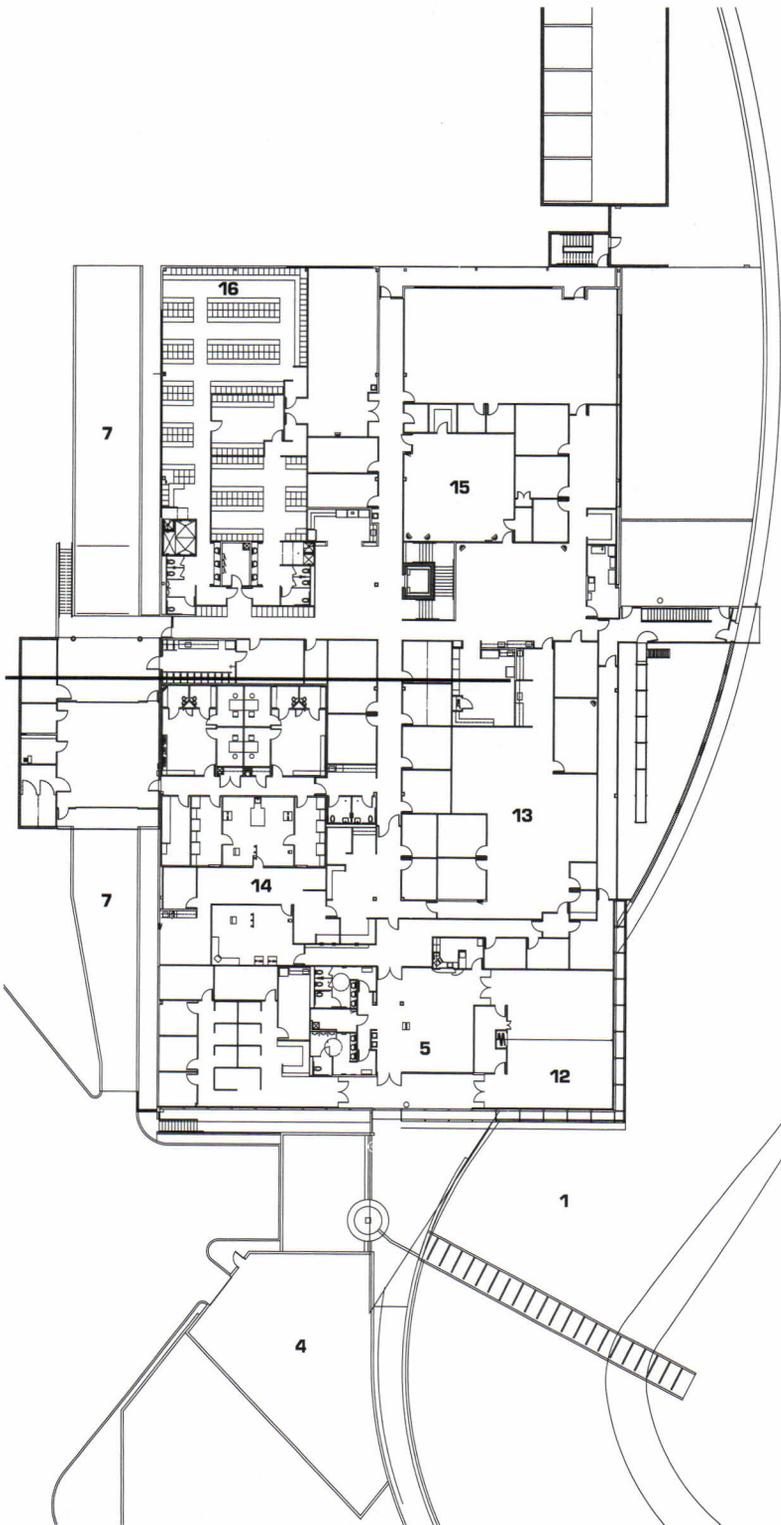
this fortunate majority, its whole point is a demonstration of how a building can acknowledge its environment deeply without falling back on the historicist clichés—Spanish-Colonial-Revival Revival or, less charitably, "taco deco"—that have plagued the city for the last four decades.

It's possible to read the long, low, coolly assured swoop as an L.A. import—a Gehry knockoff, perhaps, uncharacteristically restrained by budget. Kane, who in fact migrated from Los Angeles in the 1980s to study at Arizona State University in Tempe, says that people are always accusing him of wearing his California heart a bit too prominently on his sleeve.

But that isn't fair, and if you've hung around the desert long enough, you'll see this building as a solid native citizen. The swoop is indeed an authentic, water-sculpted landform—a sandstone slot canyon wall from northern Arizona or southern Utah. The box elbowing through it is an abstraction of the craggy angularity of the Santa Catalina Mountains overlooking Tucson. And the long, ground-hugging profile is an acknowledgment of the city's outrageous sprawl—and a lecture on how it could have been done gracefully. The only thing wrong with this building is that it has arrived half a century too late. ■

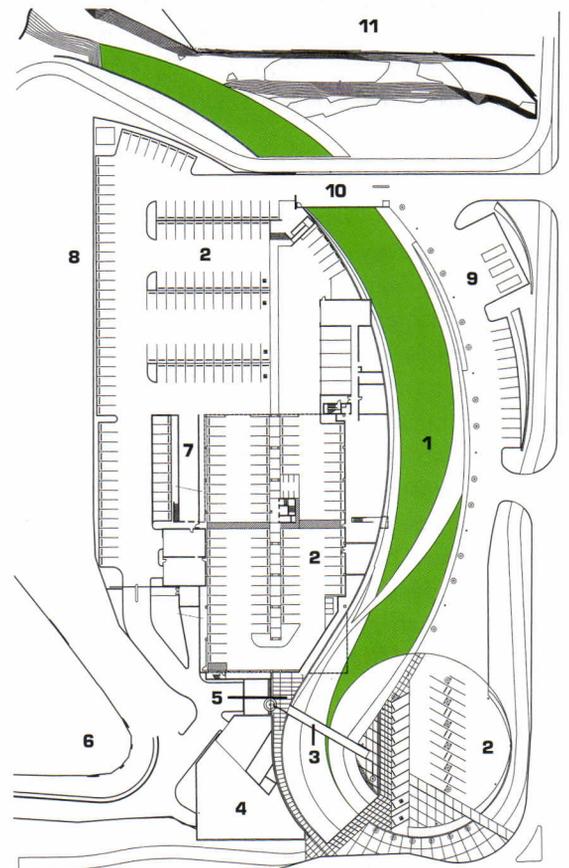


east-west section ——— 11'

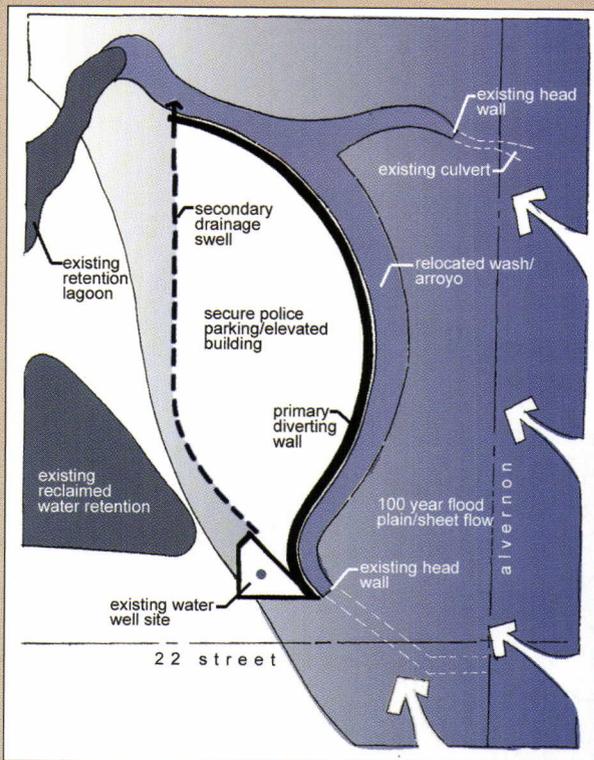


main-level floor plan ——— 22'

- 1 wash
- 2 parking
- 3 pedestrian bridge
- 4 existing well
- 5 public entry
- 6 reclaimed-water lagoon
- 7 ramp
- 8 wastewater-treatment facility
- 9 recycling area
- 10 vehicular bridge
- 11 golf course
- 12 community meeting rooms
- 13 investigations
- 14 administration
- 15 operations
- 16 locker rooms
- 17 integral skylight/light fixture
- 18 tube-steel trusses/columns
- 19 tube-steel framing on CMU wall



site plan and parking-level floor plan ——— 70' ↑

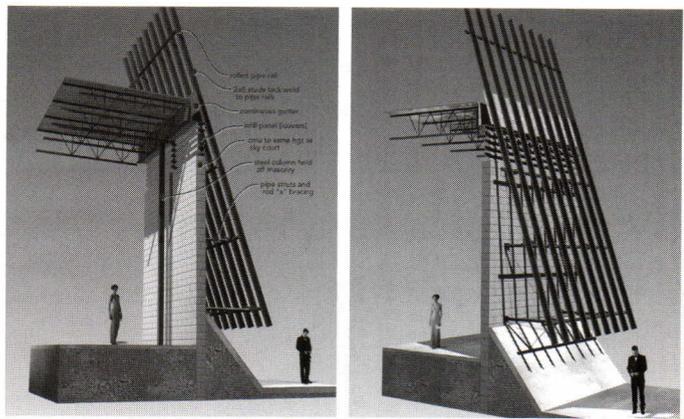


FROM HYDROLOGY, FORM

Part police station and part levy, Tucson's new Midtown Multi-Service Center follows the arc of a relocated desert wash, or arroyo, where rainwater will flow during a down-pour. To make it work, its design team had to tightly link two disciplines—hydrology and architecture—and use civil engineering and landscape architecture as bridges to a plan that resolved layers of regulatory fuss: Because the building alters an existing waterway and floodplain, the project needed a **404 permit** from the Army Corps of Engineers (for "navigable waters," no less) and an official O.K. from the Federal Emergency Management Agency.

The real challenge, however, was ensuring that 100-year floodwaters arriving from an **inlet box culvert** would move through the site, to a detention basin in an adjacent city park, fast enough to protect property and lives. A monumental, sweeping **headwall** became a nonnegotiable structural element—but the landscaping scheme had to be revised dramatically.

"The elevation drop to where the water exits the property is very minimal," says architect David C. Grigsby, principal of Tucson's GLHN Architects & Engineers, a public-works-oriented firm that provided hydrology, civil, and A/E services. "So the wash became wider and wider" to prevent backup at the culvert. With the artificial arroyo eating up four times as much footprint as originally conceived, some compromises arose. "We wanted the property to be parklike, but the damn thing's naked," laments Grigsby. "It's been **hydroseeded** to grow desert grasses, but beyond that there's no landscaping. And that was all dictated by the hydrology." **C.C. Sullivan**



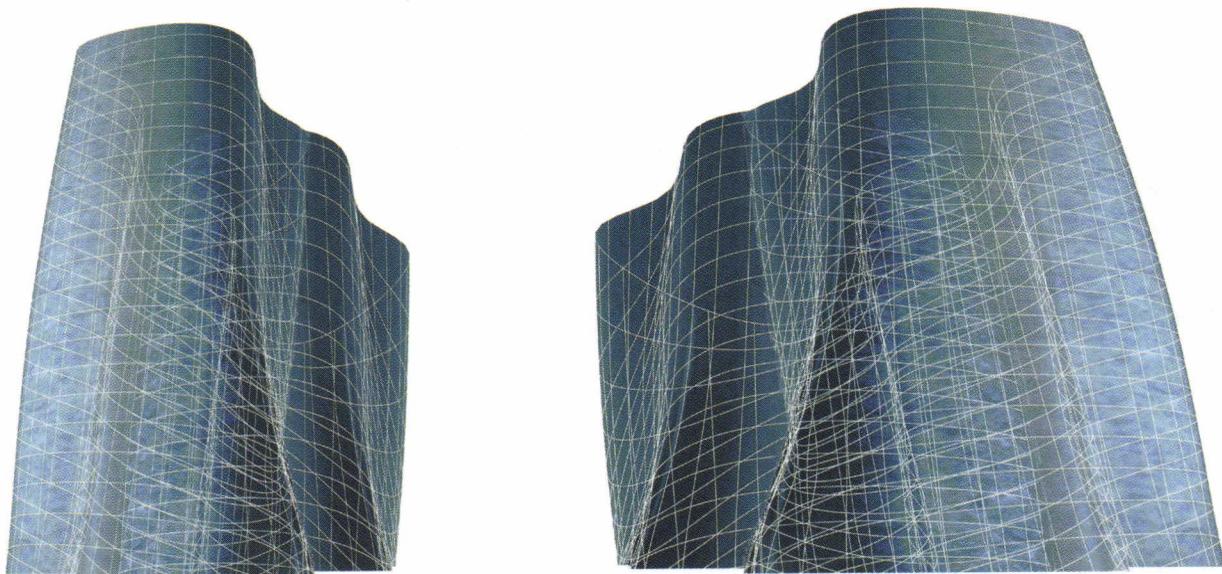
schematic wall section showing bank protection and wall framing

Patrick K. Hardesty Midtown Multi-Service Center, Tucson, Arizona

client: City of Tucson **architect of record, and M/E/P and civil engineer:** GLHN Architects & Engineers, Tucson, Arizona—David C. Grigsby (principal-in-charge), Nicholas C. Krauja (project architect) **design architect:** Architekton, Tempe, Arizona—John Kane (design principal), Christopher Kelly, Mark Roddy (design architects); Rebecca Barone (project team) **landscape architect:** McGann and Associates **engineers:** Turner Structural Engineering (structural) **consultants:** DPLace (communications); Thinking Caps (signage/graphics); Bene Harrison Interiors & Planning (furnishings); Compusult (cost estimating) **subcontractors:** RE Lee Mechanical Contracting, Mountain Power, Desert Masonry **general contractor:** Concord Companies **area:** 47,600 square feet **cost:** \$10.36 million

Specifications and Suppliers

concrete and precast double-tees: T-Pac **stained, integral-color CMU:** Young Block **tube-steel trusses and Cor-Ten cladding:** J.B. Steel **storefront:** thermally broken aluminum system with insulating glass units **integral-colored bank protection with exposed aggregate:** Desert Shotcrete **modified-bitumen roofing:** Siplast **metal-clad base flashing and poly-iso roof insulation:** Progressive Roofing **glazing:** clear low-e glass on outboard face and clear glass on inboard face **aluminum skylights with shades and integrated photocell-operated fluorescent fixtures:** Natural Daylighting **specialty glazing:** bullet-resistant panels with aluminum frames **specialty doors:** hollow metal heavy-duty and extra-heavy-duty types; solid-core birch veneer **entry doors:** aluminum entrance doors with assist operators for accessibility **wallcoverings:** semirigid PVC wainscot **interior partitions:** cement-plaster security partitions with metal mesh, and gypsum-board security partition with laminated glass-fiber armor panels **parabolic T8 fluorescent fixtures:** Lithonia **compact-fluorescents downlights:** Lithonia, Zumtobel Staff **"Dark Skies"-compliant full-cut-off high-pressure-sodium luminaries and high-color-rendering ceramic-metal-halide fixtures:** LSI, Hydrel **cable-suspended fluorescent and halogen linear lighting system:** Zumtobel Staff **decorative sconces:** Prescolite/Alum **holeless hydraulic elevator:** Otis **electrical systems:** Mountain Power



Hani Rashid for Cersaie 2004

Hani Rashid

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DEMATERIALIZING THE OFFICE TOWER

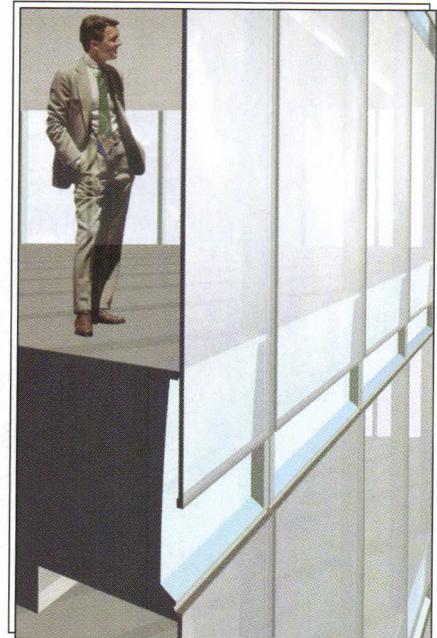
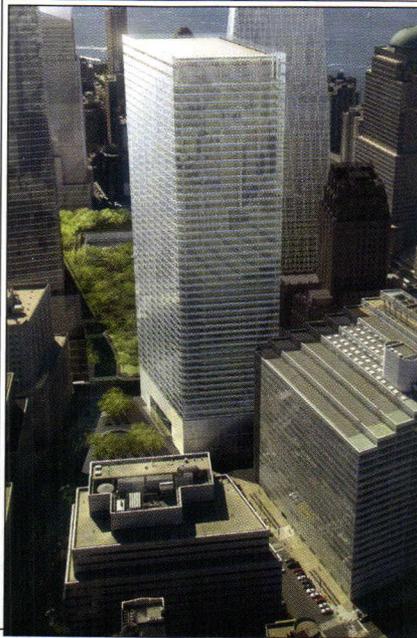
Two designers team up to make a skyscraper transparent.

by Bay Brown

The low-rise Seven World Trade Center (WTC), which sat adjacent to the twin towers, was destroyed in the events of 9/11 but has bypassed the rebuilding hurdles of its neighbors. The site is leased by Silverstein Properties, as is the WTC parcel, but it is owned by the state of New York, not the Port Authority of New York and New Jersey, and thus never was part of the WTC complex proper. In fact, it is currently under construction and expected to be completed in 2006. The building took the fast track because of its dual program. As with its predecessor, the new structure houses an eight-story **transformer station**, which city officials wanted back up quickly; it should be in operation this summer. Forty-two floors of office space and four mechanical floors will rise above it.

Designed by Skidmore, Owings & Merrill (SOM), in collaboration with James Carpenter Design Associates (JCDA), the project betrays the hand of principal Jamie Carpenter, a trained sculptor whose knowledge of glass and light allow him to bridge the worlds of artistry and architecture.

The interplay of material and light on the building's façades effectively meld the structure with the sky. In collaboration with his partner David Norris, Carpenter studied how natural



Low-iron glass creates transparency on the upper floors (above); the reflective stainless-steel podium also aims to dematerialize the base (bottom, left).

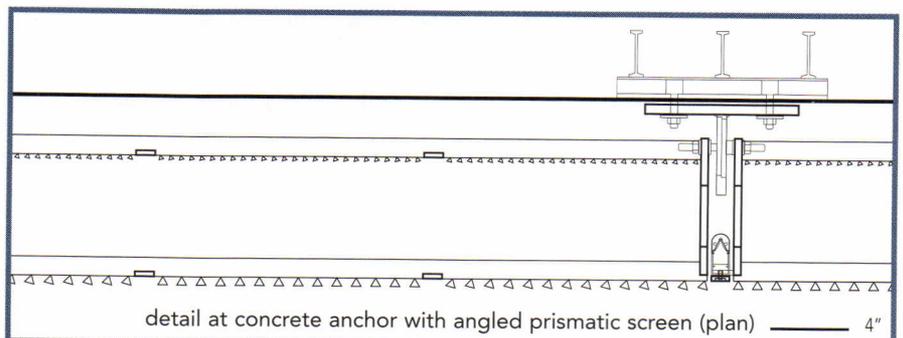
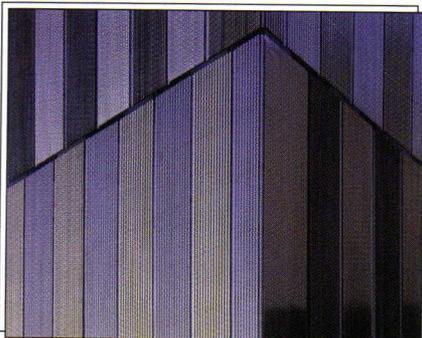
light would interact with floor-to-ceiling glass curtain walls on the upper stories. SOM and JCDA devised a **ship-lap glazing detail**, manufactured by Italian company Permasteelisa, in which the vision glass overlaps with and floats in front of a stainless-steel spandrel. The sill of the spandrel consists of a **blue stainless-steel reflector**, which bounces ambient light from the sky up onto a connected curved reflector. The sill won't read as blue but instead as stripes of cool light that merge with the sky, creating a sense of transparency.

Visually supporting this seemingly light structure, the building's podium—where the transformers are housed in concrete vaults—is open to the elements for ventilation. The designers conceived a cagelike **stainless-steel**

screen wall to enclose the podium yet allow it to breathe. Manufactured by Johnson Screens, a company that typically makes filtration devices for large dams and not building projects, the wall is designed such that the vertical wires of the grid—**elongated triangular prisms**—change angle every 14 members, creating the effect of panels that reflect light at different angles. At night **LED lighting** illuminates the cage's 7-inch-wide interstitial space.

On one side of the podium, JCDA designed a flexible **cable-net glass** manufactured by the German company Gartner for the storefront entrance to the lobby, which is at once visually open and able to dampen the effect of a blast.

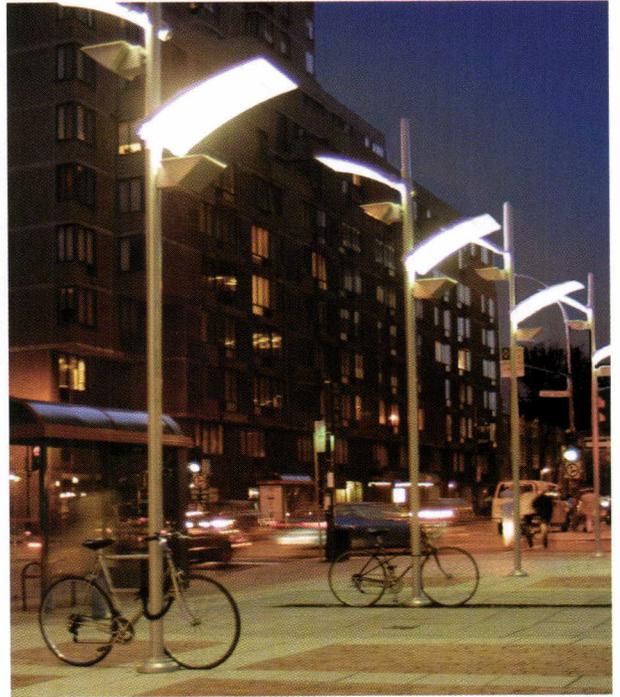
credits and specifications at www.architecturemag.com



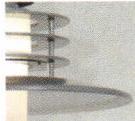
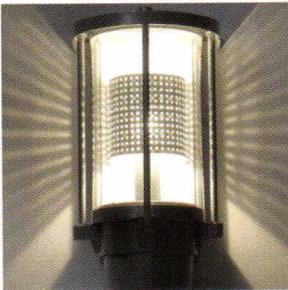


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ON THE PAPER TRAIL, WITH LESS PAPER

Not using the latest in Web-based document management? Your next retail client might insist that you do.

by C.C. Sullivan

The term "document management" might conjure up images of file clerks and manila folders, but a related idea, electronic content management (ECM), now allows construction project teams to not only remotely store and retrieve CAD files and contracts, but also to automatically interpret the data, cutting costs and speeding delivery. And online ECM apps are increasingly popular: East Northport, New York-based technology consultant Harvey Spencer Associates says the market for "document capture," which broadly describes the system segment, increased by 7.4 percent last year and will grow by another 10 percent in 2004.

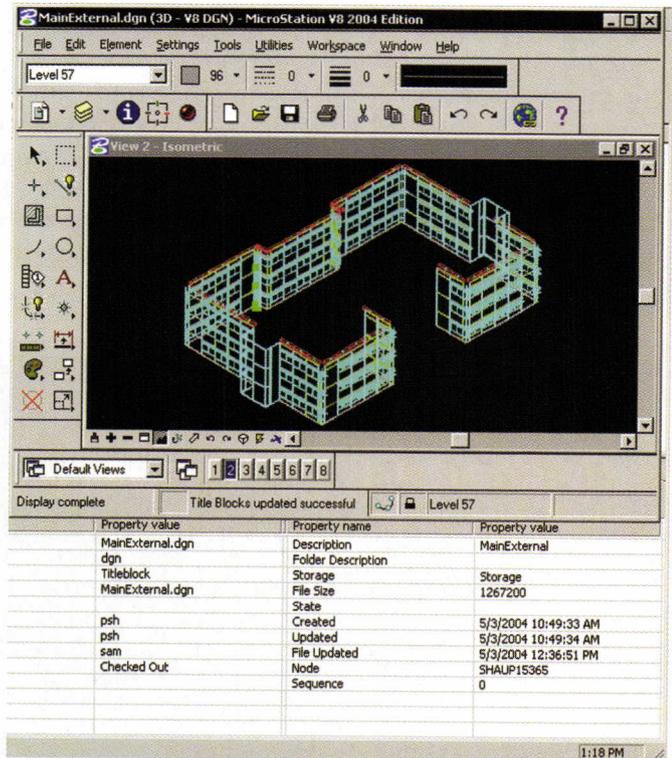
ECM's commercial appeal is matched by its technical range. At an expo held last March in New York City by the Association for Information and Image Management (AIIM, www.aiim.org), new solutions unveiled included a "Compliance Manager" from **Documentum** (www.documentum.com), a Web-based tool that automatically audits a firm's adherence to government regulations—ideal for federal work. (Documentum's main offering is eRoom, which some large construction teams have adopted.) Another tracking tool, Team Collaboration Manager from **FileNet** (www.filenet.com), provides an organized paper trail that integrates online meetings and team polls. Also praised at the AIIM expo was the XML-based **Adobe Designer** (www.adobe.com) for authoring interactive document formats. The software features a new tool that automatically adds bar codes to PDF documents, a function that is expected to speed processing by project teammates and government jurisdictions.

NEW LANDSCAPE FOR PAPERWORK

Overall, the ECM landscape includes products specifically built for A/E/C use, and others that just happen to be friendly to large file formats and other quirks of the practice. In the latter category is **ImageSite** by eQuorum (www.equorum.com), which A/E firms like Akron, Ohio-based GPD Group use to share, mark up, and print documents such as drawings, permit applications, and RFI responses.

"We use it as more of a communication tool for national accounts in the retail and commercial segments," says Darrin Kotecki, executive vice president of GPD Group, a 185-person architecture and M/E/P, structural, and civil engineering firm. "We go out to clients and explain it to them in a few hours, and they see it as a value-added service and benefit."

Kotecki says that his background as a project manager for a



The big story in A/E/C document management is its integration with BIM, or building-information modeling systems, as suggested in this partial screen view of Bentley's Microstation with ProjectWise.

national retailer led to this conclusion. "Time is everything," he explains. "You might have to finish a project in 90 days."

Perhaps that's why Autodesk has been touting the acceptance of Buzzsaw Professional and the newly minted **Buzzsaw SE** (www.autodesk.com/buzzsaw) by retail end-users like Toys "R" Us and grocer Safeway. (SE stands for "Server Edition," by the way, meaning that as of this year Buzzsaw can be installed on the user's own network.) Other key markets for A/E/C-specific ECM solutions include the homebuilding segment and the hospitality industry, where hotel chains like to preserve as-built information to prime future property sales.

FIRMS CANNOT LIVE BY ECM ALONE

All ECM systems share certain benefits—remote teamwork, for instance—that require such basic features as reference files, version controls, and "security and release" features to ensure users have "rights" to view or alter documents. These functions ensure that updates are distributed across all parties and the entire project data set. Some such across-the-board alterations are automated, but many are still manually entered, meaning labor and time.

According to specialists in these applications, A/E/C-oriented solutions tend to be better for working with building information and CAD file types, whereas general-business ECM programs are ideal for integrating data across multiple functions, such as accounting and human resources. The lat-

ON THE WEB, A CAD-FREE TICKET TO ROUND-TRIP REVIEWS

The use of the Web for electronic content management (ECM) has been a no-brainer, pairing near-universal browser technologies with an unmatched wide-area network. Capitalizing on this trend, Autodesk has expanded the collaborative functionality of its secure, high-fidelity Design Web Format (DWF) for viewing and sharing CAD files, output that is analogous to PDFs. The latest upgrade for the free, open-format application is **DWF Composer**, which is intended to speed design reviews and help reduce costs and errors. By integrating the design-creation process with design review, DWF Composer allows designers to review, measure, and mark up sheet sets without CAD software. The marked-up changes can then be sent to the CAD user for integration into the original file for a complete "round-trip review." According to Autodesk, millions of users of DWF Viewer (formerly called Express Viewer) download an estimated 13,000 files daily.

woven wire mesh scrims

Cascade Coil Drapery

Marion Oliver McCaw Hall at Seattle Center



ter type of system has made a large impact on how highly regulated manufacturers, such as pharmaceutical companies, integrate their document streams and work processes.

Today's big ECM story, however, is that it could give way to BIM—building-information modeling—which employs a project database and a 3-D reference model to keep all project information, not just documents, in synch. So rather than taking turns borrowing the latest drawing versions from a gussied-up FTP site, BIM calls up a "view" into what is actually all of the project data. If changes are made, they are universal, noted in all related drawings and schedules.

Makers of BIM software—Autodesk (with its Revit), Graphisoft (its flagship is ArchiCAD), as well as Bentley (which makes Microstation)—see a future convergence of ECM and BIM on the horizon. For example, by incorporating elements of its current **ProjectWise** ECM app, Bentley offers a "managed environment" with such features as "component indexing," which allows the user to call up all files that relate to an isolated item, such as a single joist or air handler.

THE COSTS OF ECM AND BIM

The more immediate question for architects is whether ECM is a reasonable substitute for BIM, given that many firms plan to adopt BIM anyway.

For initial costs, including training, some ECM programs might offer a stop-gap bargain. But when the project or enterprise is sophisticated—for example, the project is a big mission-critical facility, or the architecture firm has 12 offices, or the contractor is keen on cost and error controls—the limitations of general-business ECM suddenly come into view. ■

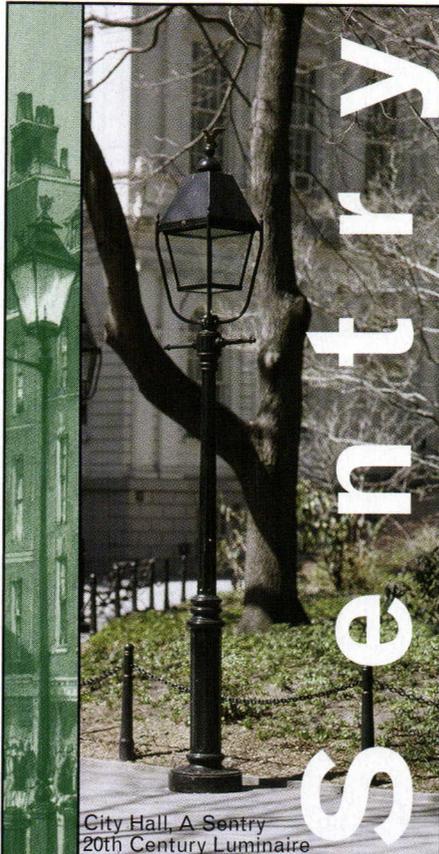
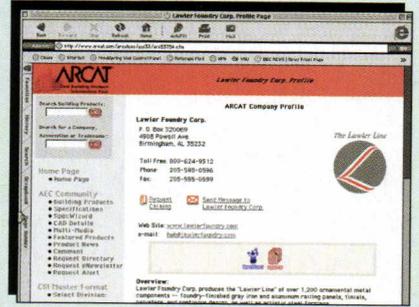
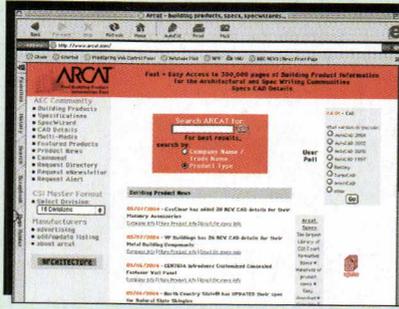
➔ Robo-Spec Writers

- ➔ product: **SpecWizard and Arcat Details**
- ➔ manufacturer: **Arcat**
- ➔ web: **arcat.com**

With accurate specification templates for key products from scores of major building-product manufacturers, it's no wonder that the SpecWizard tool at Arcat's popular website gets lots of use. Architects choose from convenient drop-down menus and click once to get a downloadable, fully CSI-formatted spec. Also at Arcat.com: An extensive library of reliable CAD details that allows the designer to skip the manufacturer's online promotions and registrations.

- ➔ product: **ADS**
- ➔ manufacturer: **Architectural Data Systems**
- ➔ web: **architecturaldatasystems.com**

An "online workstation" that helps architects produce documents quickly, ADS integrates four labor-intensive tasks into one user-friendly system: product selection, detail drawings, material scheduling, and spec writing. The packages are updated and coordinated automatically as project decisions regarding design and construction are made.



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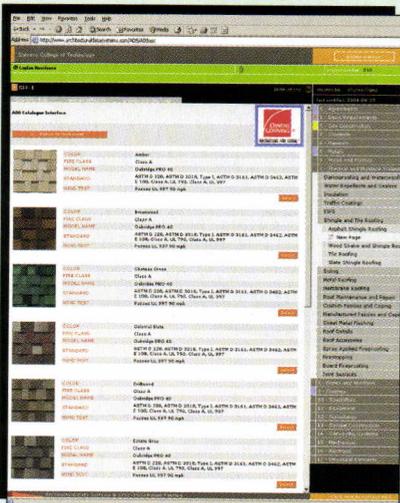
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product: Aloha
 manufacturer: Donghia
 web: donghia.com

Woven from solution-dyed acrylic yarn from Sunbrella (www.sunbrella.com), the Aloha line of indoor/outdoor fabrics is mildew- and stain-resistant, yet drapable and soft, and comes in 17 schemes. The Oahu pattern, for example, is inspired by traditional Hawaiian quilt motifs, while all the colors used throughout the line evoke the cheerful tones of sun, sky, sand, and ocean. The textiles are easily cleaned with cold water and soap without affecting the brightness.



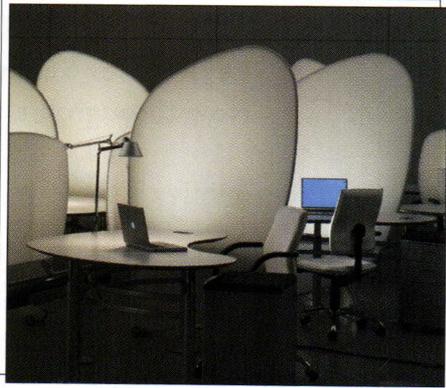
product: Chatter
 manufacturer: KnollTextiles
 web: knolltextiles.com

Chatter, a group of two wall coverings and one woven fabric, is inspired by computerized communication. A vinyl sheet called Pause displays a pattern of oversized commas and periods, while Plus is a woven material bearing its namesake typographic mark in dense repetition.



product: Liquid Workspace
 manufacturer: Bretford
 web: bretford.com

At the core of Bretford's new workstations is its "Liquid Power & Data" delivery system, which gets power and data cables off the floor, storing them safely and efficiently in hidden compartments. The stations feature curved, ergonomic work surfaces, and can be arranged in either nonlinear or grid formations.



product: Think
 manufacturer: Steelcase
 web: steelcase.com

This new midpriced, ergonomic work chair was created using the cradle-to-cradle sustainability principles pioneered by architect William McDonough and chemist Michael Braungart. Engineered to reduce back pain and improve posture, the chair incorporates flexors that adapt to the sitter's changing position.

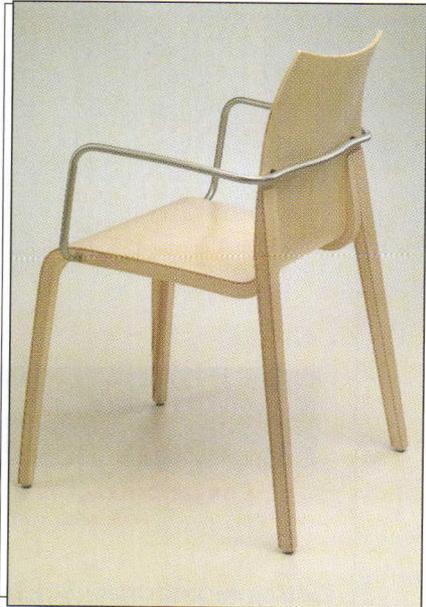
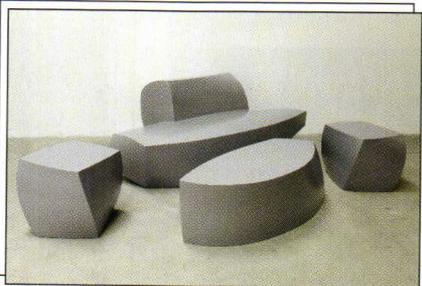


product: Annika Armchair
 manufacturer: ICF Group
 web: icfgroup.com

This sleek chair by Danish designer Jakob Berg echoes the clean lines of furniture by fellow countryman Arne Jacobsen, whose use of bent wood has become synonymous with the Nordic aesthetic. Annika comes with a natural birch frame, a seat and back finished to match, and chrome-plated, tubular steel arms. Other available veneers include oak, walnut, beech, and cherry. The chairs stack in groups of eight, and come in an armless variation and a version with an upholstered seat pad. The design's simplicity makes it suitable for either home or workplace.

product: Frank Gehry Collection
 manufacturer: Heller
 web: helleronline.com

Architect Frank O. Gehry has created a series of sculptural furniture pieces made of silver-colored resin, including a sofa, recliner, bench, coffee table, and three cubes to use as tables or seating. Modestly priced, they are equally functional for indoor or outdoor use.



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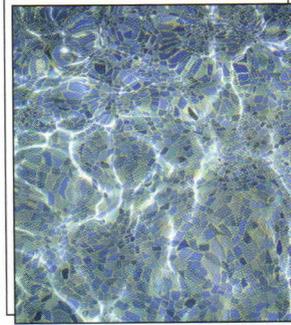
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glass

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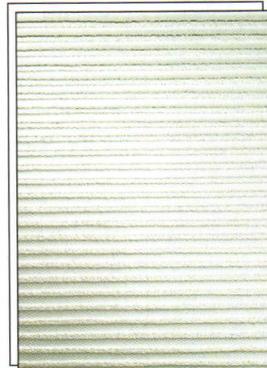
- product: Meshglass
- manufacturer: Meshglass
- web: meshglass.com

Made of small stained-glass pieces mounted on fiber-glass mesh, Meshglass can cover large surfaces or serve as a decorative accent. Durable enough for indoor or outdoor use, it is resistant to water and fire,



requires no grout for installation, and is available with matte or reflective finishes. The company has developed an interactive software program (accessible on the Web) that allows designers to build patterns from a palette of shapes and colors.

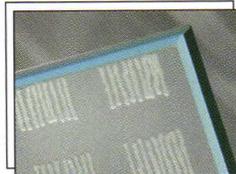
- product: Patterned Glass
- manufacturer: Forms+Surfaces
- web: forms-surfaces.com



Designed to transmit diffused light while providing a degree of privacy, Patterned Glass is a cast, dimensional material suitable for use in Forms + Surfaces' glass doors and interior lighting fixtures; for insets in wood or metal stile and rail doors; and as an infill panel for railings. Any of four standard

patterns can be specified in 4-foot-by-8-foot sheets of tempered glass with thicknesses of 1/4, 3/8, and 1/2 inches.

- product: SatinTechTure
- manufacturer: Bendheim
- web: bendheim.com



This new line of architectural glass has a fine-grained, etched surface that is intended to prevent the absorption of dirt, resist staining, and facilitate cleaning. Available

in several patterns, the treatment is applied to 5-millimeter-thick float glass in sheets of 6 feet by 10-1/2 feet. The glass can be tempered, laminated, and insulated.

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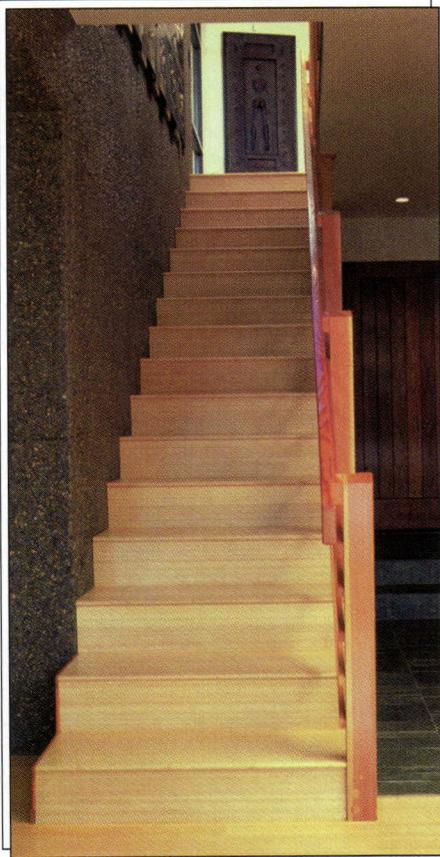
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Often what distinguishes a good project from a great one, as most architects know, is detailing and materials. When it comes to wood detailing, a number of environmentally conscious companies offer sustainable products and services that can make that extra difference. **Terra Mai (terramai.com)**, based in McCloud, California, specializes in reclaimed wood (left), salvaged from diverse and often exotic sources. The company tracks down source material and also offers installation and finishing services for a variety of projects, from floors to furniture. Recent acquisitions include discarded flooring from Thai railway sleepers and redwood siding from antique wine casks. A business primarily motivated by wood conservation, TerraMai guarantees that all source material was saved from the scrapyards.

Other unusual, environmentally motivated finish options are hardwood alternatives, such as eucalyptus and bamboo. Valued for their easy cultivation and short growing time, these species also provide a different look and feel than more typical woods. When considering their use, however, be advised that these types of plantation-raised plants are controversial. Some critics point to the harmfulness of plantation monocultures, which can upset local ecosystems, and the danger of displacing indigenous peoples through the acquisition of land for agriculture.

Teragren (teragren.com) now offers Timbergrass, a line of prefinished or site-finished bamboo flooring. Actually a hardy grass, the bamboo is available in a natural or caramelized finish with either a vertical (far left) or flat grain that can be matched with a variety of accessories like moldings, stair treads, nosings, and floor vents.

Like bamboo, eucalyptus grows in warm climates at a faster rate than more temperate hardwoods. Lyptus, from **Weyerhaeuser (weyerhaeuser.com)**, is a dual-species eucalyptus hybrid grown on plantations in Brazil that can be harvested in 14 to 16 years. This fast-growing wood is available as lumber and plywood and as 3/4-inch-thick prefinished or unfinished flooring. Random in length, the flooring planks come in 2-1/4-inch and 3-inch widths and are tongue-and-groove milled for easy installation.

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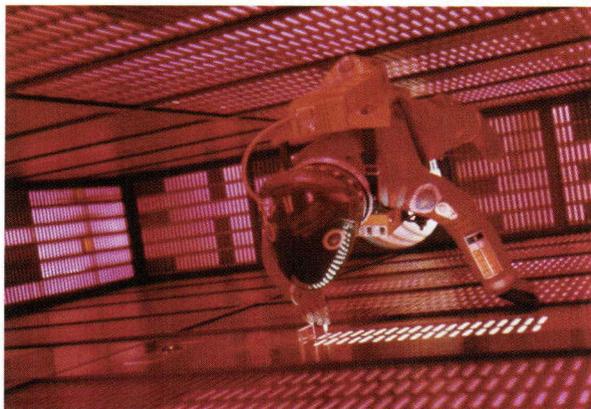
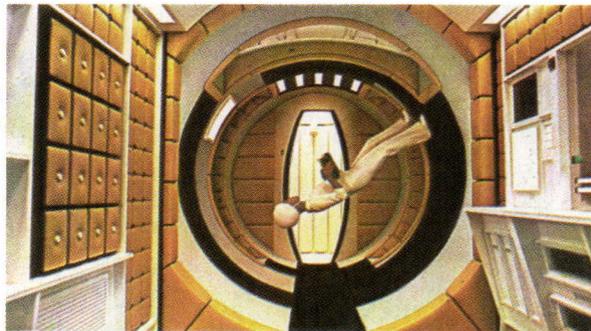
Dept. 96

EXHIBITION

Stanley Kubrick | Deutsches Filmmuseum, Deutsches Architektur Museum | Frankfurt am

Main, Germany | Through July 4 Steven Spielberg said of Stanley Kubrick, "He created more than movies. He gave us complete environmental experiences that got more, not less, intense the more you watched them." A new exhibition in Frankfurt am Main, Germany, proves Spielberg right. The retrospective traces Kubrick's evolution from 17-year old staff photographer for *Look* magazine to perfectionist director, whose films set new standards in aesthetics, technique, and special effects.

Among the most fascinating displays are the fabulous sketches of the "war room" from *Dr. Strangelove* by set designer Kenneth Adam, and, even more impressive, the extensive research documents for a film on Napoleon that Kubrick said would be the best he ever made, but which, unfortunately, was never realized. This unbelievably comprehensive material draws a sort of psychogram of the filmmaker as an obsessive and meticulous researcher. Other artifacts include set designs from *2001: A Space Odyssey*, by production designers Ernest Archer, Harry Lange, and Tony Masters, as well as Les Tomkins and Roy Walker's designs for *Eyes Wide Shut*. But the most lively and fascinating work remains Kubrick's films themselves. **Lilli Hollein**



EXHIBITION

Archigram | Design Museum | London | Through July 4

This sprawling, vibrant, cacophonous exhibition takes the viewer on a remarkable journey through 15 years of the London-based architects' work. The display itself perfectly echoes Archigram's ethos, and it's no surprise: It was designed by founding members Peter Cook, Dennis Crompton, and David Greene. With its other members, Warren Chalk, Ron Herron, and Michael Webb, the group's radical reconception of architecture and urban space—inspired by pop culture, new technology, and a deep desire for social change—translated into a series of prescient and at times irreverent propositions on interconnectivity, mobility, adaptability, and impermanence. Although most of their work was never realized—save for a few projects, including an adventure playground north of London and a swimming pool for Rod Stewart—they nonetheless triumphed through such theoretical projects as *Plug-In City*, *Living Pod*, *Instant City*, and the *Suitaloon*, a wearable all-in-one living environment. The exhibition delivers a boundless supply of collages, posters, film clips, and videos, as well as a reconstruction of Archigram's first office in Covent Garden, evoking an ecstatic sense of 1960s optimism (and utopianism) now rendered moribund by the numbing force of consumer complacency.

David Bussel

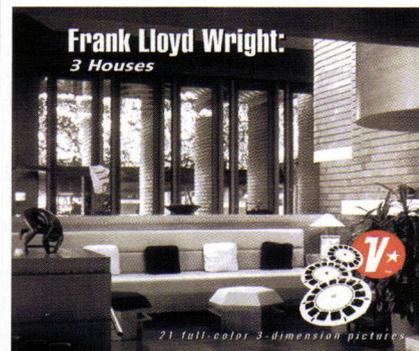


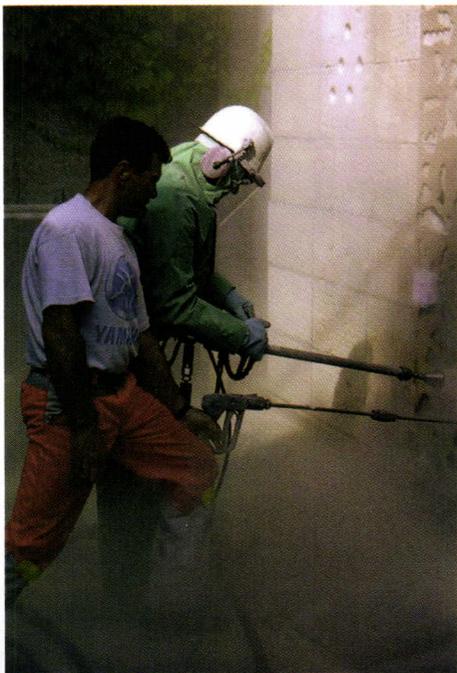
NOVELTY

Frank Lloyd Wright: 3 Houses | View Productions

www.viewproductions.com

Remember the Fisher-Price View-Master, that wacky device that looks like toy binoculars and lets you click through 3-D slides of movie stars or exotic animals? It's back—this time featuring three houses by Frank Lloyd Wright: *Wingspread* (1937), *Auldbrass Plantation* (1940), and *Grandma House* (1954). The trio of slide-wheels, beautifully photographed with a Belpasca stereoscopic camera, was created by a publisher of 3-D architectural photography that also offers portfolios on Hans Scharoun, Bruce Goff, and Frank O. Gehry. **Anna Holtzman**





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EXHIBITION

Luisa Lambri: Locations | The Menil Collection | Houston | Through June 27

Italian-born artist Luisa Lambri has made a specialty of photographing modernist architectural landmarks from an uncommon perspective: the inside. This spring's exhibit at the Menil Collection gathers Lambri's photographs of several interiors, including Richard Neutra's Strathmore Apartments, Oscar Niemeyer's Casa das Canoas, and a commissioned series on Philip Johnson's house for the de Menil family (below).

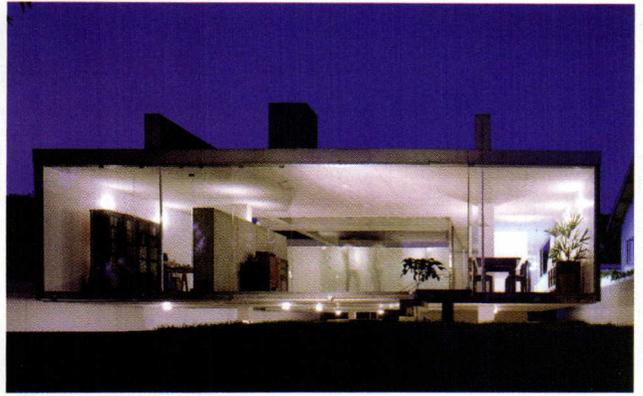
Rather than simply restate the austere emptiness of modern spaces that dominates much architectural photography today, Lambri is intrigued by questions of how we are drawn into these spaces and how we interpret them. The images explore a fascination with inhabitation, framing moments that hint at something taking place just beyond the room's limits. Leaf patterns waver behind Venetian blinds; jade-green cabinet doors crack slightly open; mirrored doors cast glances down hallways; spaces glimpsed through windows seem to invite the viewer toward something just out of reach. But if it seems that Lambri's rooms invite us in more deeply, the photographs remind us that this is also partly an artful illusion. There is no way to go farther in. Reflections bounce off of other reflections, out-of-doors sunlight glances off glass windows—the snippet of a room down the hallway stays hidden. The photographs examine the ways that interiors—and indeed images themselves—intrigue, seduce, and often evade us. **Tess Taylor**



BOOK

The Phaidon Atlas of Contemporary World Architecture | Phaidon

For a hefty \$225, the London-based publisher Phaidon is offering an equally substantial global survey of architecture built since 1998. To organize some 1,000 buildings by 660 architects from 75 countries, the book operates on a system of color-coded maps that were specially commissioned for the purpose. Projects are arranged by region—Oceania, Asia, Europe, North America, and South America—and cross-referenced in a two-part index (organized by both architect and building) to make the volume both a reference tool and an architectural travelogue. Selected by a panel of 150 professionals, from critics and curators to academics and practitioners, the buildings cover a broad range of program, scale, cost, and context. While work by major international figures (Renzo Piano and Zaha Hadid, for example) are well represented, the book's greatest asset is its wealth of designs by lesser known but talented architects, including a tree house in South Africa by Van Derwe Miszweski; the Ljubljana chamber of commerce in Slovenia by Sadar Vuga Arhitekti; a geothermal power station (below left) in Italy by Stefano Boeri; and private houses in Poland by Promes Architekci and in Brazil by MMBB Arquitectos (below right). **Abby Bussel**



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A large, stylized graphic of a white computer mouse with green accents. The mouse is shown from a top-down perspective, with its cord extending upwards. The background is dark, and the mouse is illuminated from below, creating a soft glow. The word "Allure" is written vertically in a large, white, serif font on the right side of the graphic.

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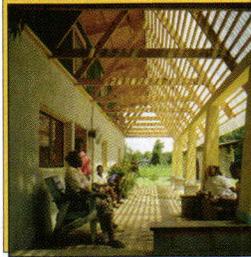
Santiago Calatrava
Two models of the Spanish architect's transportation hub for the World Trade Center site.
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ROTTERDAM

Content: Rem Koolhaas
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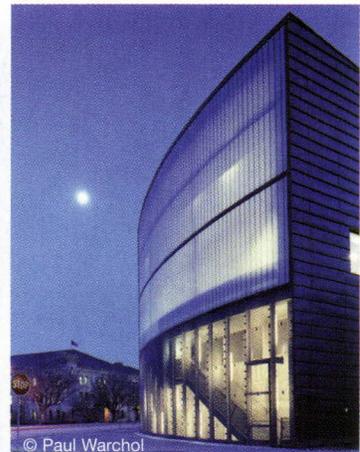
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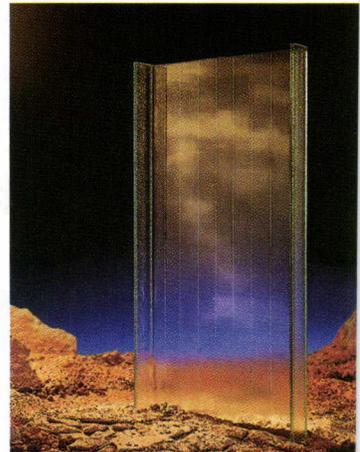
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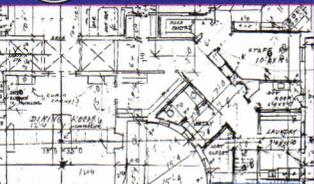
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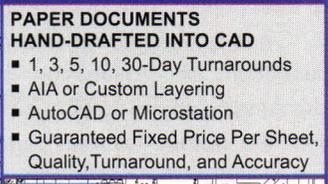
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CLEVELAND INTENDS TO BUILD AND RENOVATE MORE THAN 100 SCHOOLS, BUT INNOVATIVE DESIGN THINKING IS NOT ON THE AGENDA. STUDENTS AND TEACHERS DESERVE BETTER. BY STEVEN LITT

The Cleveland Municipal School District plans to spend an estimated \$1.5 billion in state and local bond-issue money over the next decade to build 51 new schools, renovate 59, and demolish 44. By the end of this year, it will have broken ground on the first four school buildings to be constructed in decades.

You'd think that with a project of that magnitude, accommodating 73,000 students, school officials would be aiming for exemplary architecture, especially since the building program represents the largest investment in Cleveland's neighborhoods in the history of the city. But the district's lackluster performance so far shows how the design of public schools can fall short of the creative effort that cities, including Cleveland, often lavish on museums and stadiums.

Schemes for the first new schools in Cleveland—three K-8 schools and a high school—bring to mind the bland, formulaic architecture of fast-food restaurants, malls, and big-box stores. In some cases, the buildings are poorly related to their sites, because they're either too big for their dense neighborhoods or they're separated from the street by parking lots.

In its favor, the district envisions the new and renovated schools as community centers with gymnasiums, meeting rooms, and libraries available for public use after hours. Using grant money from the Cincinnati-based KnowledgeWorks Foundation, an organization that provides funding for education initiatives in Ohio, the district has held hundreds of meetings with residents about school design. In the case of one new high school, for example, the local community convinced the district to build a free-standing facility, rather than the K-12 building originally planned for the site.

But while the district has tried to listen to concerns from individual neighborhoods, it has not fostered a citywide discussion about the potential for new

schools to reinvent poor, aging, and racially divided neighborhoods. If anything, officials want to avoid raising expectations about architecture. "My goal is really not to provide opportunities for Cleveland to be on the map as a national site for great architectural design," district CEO Barbara Byrd-Bennett said last winter. In a follow-up interview, she softened her stance somewhat. But many of the city's best architecture firms still feel alienated by the process and have not sought school commissions, complaining about bureaucratic hassles or fees that average 5 percent of construction costs.

The Urban Design Collaborative at Kent State University (KSU) has tried to help. Two years ago, it was awarded a \$75,000 grant from the National Endowment for the Arts to collaborate with the school district on a national competition to design a new school for Cleveland. If it had been well received, the university's initiative could have

©"My goal is really not to provide opportunities for Cleveland to be on the map as a national site for great architectural design." —Cleveland school district CEO Barbara Byrd-Bennett.

matched the quality of other recent school-design competitions held in Chicago and Perth Amboy, New Jersey. But the Cleveland district, which initially supported KSU's grant application, has lost its enthusiasm for the project and the university may soon have to tell the NEA to keep its money.

In their own defense, district officials argue that they cannot be more innovative because of restrictive design guidelines imposed by the powerful Ohio School Facilities Commission, which governs everything from siting to materials. Those guidelines, more often interpreted

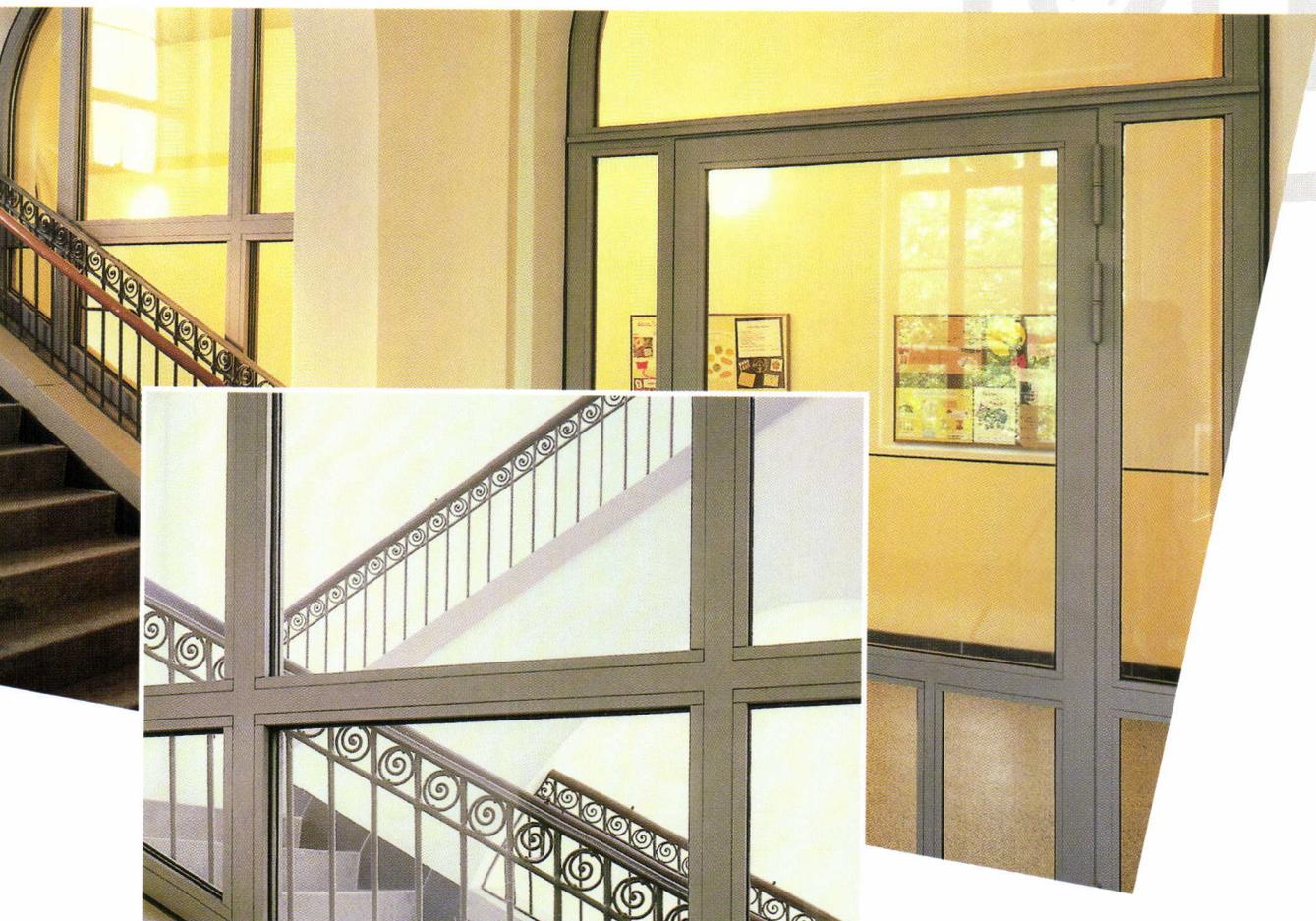
as rules, have teeth. To qualify for two-thirds of the funding for its construction program, the district has to secure the commission's approval for all designs, or forego state matching money. Critics believe that the guidelines were conceived with a one-size-fits-all philosophy, with edge-city locations in mind, and with a bias against urban neighborhoods and historic preservation.

Spokesmen for the agency say its position is becoming more flexible, and there's evidence to that effect. Originally, the state wanted Cleveland to demolish 90 vintage schools, claiming they couldn't be modernized. After the district protested, the number was reduced by half. But preservationists are still alarmed by the loss of some 45 buildings, and are fighting to save them. Officials, in turn, say the effort to save the schools could jeopardize the district's eligibility for millions of dollars in state funds.

An even bigger problem is that the district is facing a shortfall in operating money that could eliminate 1,300 employees, including many teachers, before next fall. The crisis hardly makes it easier for officials to think creatively about design, especially because its in-house management team doesn't include a strong advocate for architecture, much less a licensed architect.

In March, the American Architecture Foundation (AAF) in Washington, D.C., launched a nationwide program aimed at improving school architecture. AAF director Ron Bogle is planning a series of workshops across the country, culminating in a national school-design summit in 2005. He says he wants to include a major urban district in Ohio, possibly Cleveland. But local officials haven't expressed interest in such a workshop. Meanwhile, the district's program is rolling ahead, with results that are looking like a missed opportunity. ■

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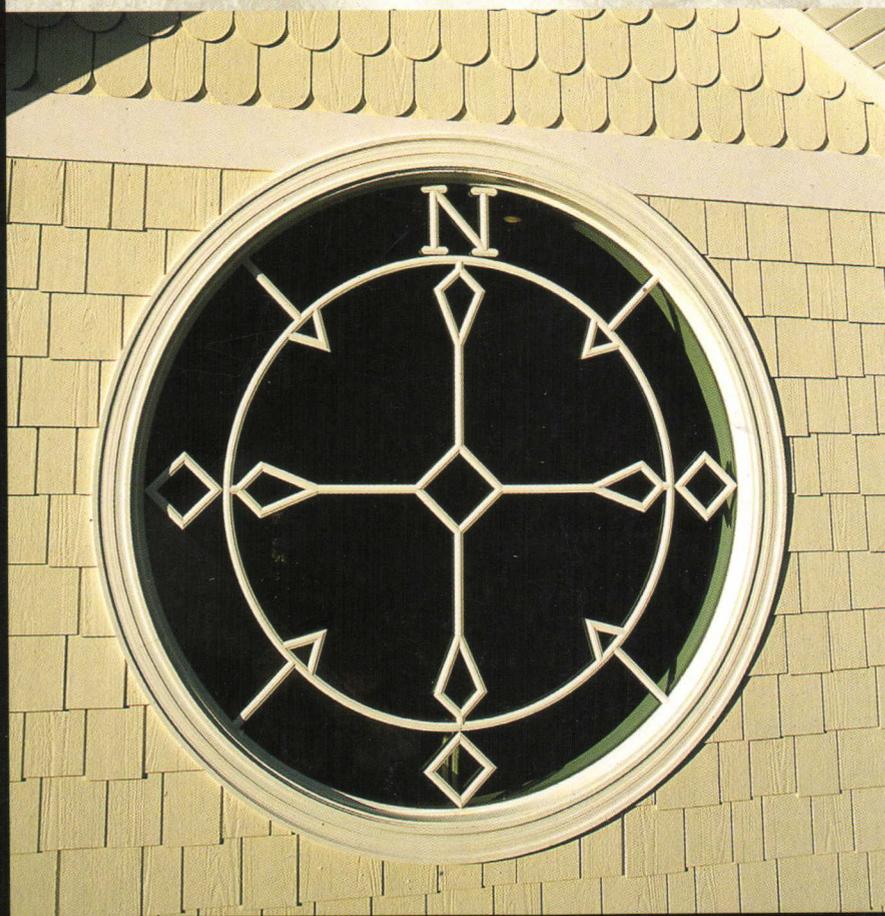
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